

EXHIBIT 1

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION

IN RE: CATHODE RAY TUBE)
(CRT) ANTITRUST LITIGATION,) Case No.
4:07-cv-05944-JST
RELATED TO:)
MDL No.
ALL DIRECT PURCHASER ACTIONS) 1917
_____)

REMOTE VIDEOTAPED DEPOSITION OF
PHILLIP M. JOHNSON, Ph.D.
TUESDAY, JANUARY 11, 2022

Reported in Stenotype by:
Cody R. Knacke, RPR, CSR No. 13691
Job No.: 825149

1 quantitative study of that question.

2 BY MR. CARTER:

3 Q. And you haven't done a specific
4 quantitative study of the television or monitor
5 manufacturers' willingness to switch between sizes
6 of CRT; correct?

7 MR. RUSHING: Objection to form.

8 THE WITNESS: I have not done a study like
9 that, no.

10 BY MR. CARTER:

11 Q. Did you conduct any analysis of CRT
12 customers' willingness to substitute from ITC to
13 bare tubes or vice versa?

14 A. For CRT customers?

15 Q. Yes.

16 MR. RUSHING: Objection. Form.

17 THE WITNESS: No, I have not done a
18 specific study about the substitutability between
19 those two -- two types.

20 BY MR. CARTER:

21 Q. Do you know what a shadow mask is?

22 A. I recall the term and discuss it and
23 describe it in my report. It's the element of the
24 technology that's within a CRT that assists with the
25 display of the image.

1 Q. And did you conduct any analysis of CRT
2 customers' willingness to substitute between
3 different types of shadow masks?

4 A. No, I have not done a study of that type.

5 Q. Did you conduct an analysis of how customer
6 demand for particular sizes and types of CRT would
7 be affected by price changes?

8 MR. RUSHING: Objection to form.

9 THE WITNESS: No, I -- generally the
10 analyses I have done of CRT prices embody within
11 them the relationship between quantities and prices.
12 But I have not done a particular study of how
13 consumers' demands for the products responded or
14 would have responded to various changes in price.

15 Of course as an economist I have some
16 understanding of what one expects to how demand
17 responds to price, but I haven't done a specific
18 quantitative estimation of that relationship.

19 BY MR. CARTER:

20 Q. So you're saying as an economist, you
21 expect that the customers might be willing to switch
22 between, for example, different sizes based on the
23 change in price, but you don't know how much change
24 in price because you haven't studied that; correct?

25 MR. RUSHING: Objection to form.

1 THE WITNESS: I think I gave the answer I
2 intended to, which is I haven't done a study of
3 consumer demand and how that specifically would
4 respond to price as part of the analysis I did here.

5 BY MR. CARTER:

6 Q. Is it your opinion that CPT and CDT prices
7 are interrelated?

8 MR. RUSHING: Objection to form.

9 THE WITNESS: Yes, there's a relationship
10 between the two types of products.

11 BY MR. CARTER:

12 Q. Would an analysis of CRT customers'
13 willingness to substitute between CDTs and CPTs
14 based on price changes inform the analysis of that
15 relationship?

16 MR. RUSHING: Objection to form.

17 THE WITNESS: It might. I would expect
18 that there would be other aspects of the products
19 and markets that would be as important or more
20 important in contributing to a relationship between
21 the prices of CRT and CD -- or sorry -- CPT and CDT
22 products.

23 BY MR. CARTER:

24 Q. Such as?

25 MR. RUSHING: Same objection.

1 THE WITNESS: Well, such as issues about
2 the ability of manufacturers to switch manufacturing
3 between one to the other, ability or common --
4 common cost factors. Maybe common elements of
5 pricing, such as the pricing activities of the
6 coconspirators in the alleged conspiracy.

7 I think that those other sorts of factors
8 among the -- on the producer's side of things are
9 important in resulting in a relationship between
10 prices of CPT and CDT products.

11 MR. CARTER: I have marked Exhibit 8547,
12 which is U.S. Department of Justice and Federal
13 Trade Commission Horizontal Merger Guidelines.

14 (Exhibit 8547 was marked for identification
15 by the Certified Shorthand Reporter, and a
16 copy is attached hereto.)

17 BY MR. CARTER:

18 Q. I'll put it up on the screen.

19 Do you see that document?

20 A. Yes. The cover page just came up.

21 Q. Are you familiar with the Horizontal Merger
22 Guidelines?

23 A. I have reviewed them on various occasions.

24 Q. You'd agree that they're considered an
25 authority on market definition in antitrust cases?

1 repeat the beginning of your answer, sir. You cut
2 out.

3 THE WITNESS: I'm not sure I can recollect
4 the exact words I used at the beginning of my
5 answer, so -- but I can try to answer the question
6 again if that's okay.

7 This is the section of the report where I
8 just describe how the activities of the defendants,
9 the coconspirators, were intended to impact and did
10 impact more than just the products -- the specific
11 products for which we had target prices.

12 BY MR. CARTER:

13 Q. And the subsection 1 underneath this titled
14 "Qualitative Evidence," it's fair to say this is
15 summarizing what you would believe to be the record
16 evidence supporting your conclusion that target
17 prices affected the price of nontargeted CRTs?

18 MR. RUSHING: Objection to form.

19 THE WITNESS: I'm not sure I -- certainly
20 there's a discussion of documents in depositions
21 that are relevant to the question. I don't know
22 that I'm putting together an overall summary of all
23 of that record evidence, but I think it's documents
24 that help explain how that process worked and
25 that -- how the defendants -- or the defendant

1 employees, you know, saw that -- saw those
2 relationships and saw how that process worked.

3 BY MR. CARTER:

4 Q. So in paragraph 59 you state, "It was
5 possible to produce two different sizes on the same
6 line in tandem (one unit of one size and then, the
7 other unit of the next size). If a customer wanted
8 to change certain aspects of the configuration, the
9 production lines were flexible enough to make those
10 changes in short order, in some cases within the
11 same day."

12 You cite a Toshiba deponent for both of
13 those statements; correct?

14 MR. RUSHING: Objection to form.

15 THE WITNESS: There is a deponent, Jay Alan
16 Heinecke, referenced in both of the footnotes
17 attached to those two sections. There's also some
18 other documents cited in the first -- or another
19 document cited in the first paragraph.

20 BY MR. CARTER:

21 Q. Are you opining in this paragraph that any
22 CRT manufacturer could produce multiple sizes on
23 their production lines?

24 MR. RUSHING: Objection to form.

25 THE WITNESS: I don't know that I'm able to

1 say that every manufacturer at all times was able to
2 make all possible changes, but it is my
3 understanding that there was -- were adjustments
4 that were possible and adjustments that were made.
5 I don't -- I don't know the full extent of those
6 possibilities.

7 BY MR. CARTER:

8 Q. Did you find any evidence that
9 manufacturers other than Toshiba had the capability
10 of running two sizes in tandem on a single
11 production line?

12 A. I don't recall as I sit here everything
13 I've seen, but nothing's -- I don't recall at the
14 moment whether or not I've seen it for others
15 than -- other than what's cited here. But I do
16 expect that it was probably broader than Toshiba and
17 that there were -- that flexibility was something
18 that manufacturers would value in their production
19 processes and want to be able to do in response to
20 changes in what was being ordered.

21 Q. Did you study what the incremental cost was
22 to Toshiba to construct this production line with
23 the ability to run multiple sizes in tandem?

24 MR. RUSHING: Objection to the form.

25 THE WITNESS: No, I don't recall specific

1 figures with regard to that. It seems like if they
2 could make those changes in short order, then it
3 probably wasn't hugely expensive to make those
4 changes.

5 BY MR. CARTER:

6 Q. You're talking about making the changes
7 after they've already constructed the production
8 line; right?

9 MR. RUSHING: Objection to form.

10 THE WITNESS: That's what I'm referencing
11 in that statement, yes.

12 BY MR. CARTER:

13 Q. Did you study the cost to Toshiba or any
14 other manufacturer of actually building a production
15 line with the capability of running multiple sizes
16 at the same time?

17 MR. RUSHING: Objection to form.

18 THE WITNESS: I don't think I made a
19 specific study in that regard. There's some
20 discussion of the costs of entering the CRT
21 production industry and plant costs at the time.

22 I don't recall anything with the detail
23 about what sort of costs were involved in making the
24 plant more or less flexible.

25 ///

1 BY MR. CARTER:

2 Q. So it's fair to say you didn't conduct any
3 analysis of whether it would be economical for other
4 CRT producers to build or modify a production line
5 to run multiple sizes at once?

6 MR. RUSHING: Objection to form.

7 THE WITNESS: I don't know for a fact that
8 they couldn't run multiple sizes. I haven't done a
9 study of that. I didn't have the -- I don't recall
10 seeing -- I don't recall the details of what
11 products were run on what lines. I do recall there
12 was form production-related materials in documents
13 that we saw that might have some bearing on that,
14 whether or not they could, but I don't recall as I
15 sit here what I've seen about those capabilities or
16 those costs.

17 BY MR. CARTER:

18 Q. Going back to paragraph 59 in your report,
19 you write, "Given this flexibility, price
20 differences between CRTs of different
21 characteristics that were not cost-related would be
22 expected, as an economic matter, to induce changes
23 in output in favor of the more profitable
24 configurations, creating market pressure to re-align
25 prices."

1 When you reference this flexibility, you're
2 referring to changing aspects of configuration
3 similar to what Toshiba did and the example you cite
4 in the footnote?

5 MR. RUSHING: Objection to form.

6 THE WITNESS: There -- this is one example
7 of a way that manufacturers adjust their output, by
8 potentially switching what a line produces from one
9 product type to another or one set of product
10 characteristics to a different set of product
11 characteristics.

12 There's also flexibility in the choice of
13 how fast you run which lines potentially or which
14 lines you shut down for how long. If you alter your
15 product mix, how you shift resources or staff from
16 one -- one aspect of the product line to another.
17 Those all contribute to the flexibility and
18 relationship between prices over time.

19 BY MR. CARTER:

20 Q. So did you assume that because Toshiba had
21 that factory, that other manufacturers would be able
22 to do the same?

23 MR. RUSHING: Objection to form.

24 THE WITNESS: No, I wouldn't say that I
25 assumed that. I think it's -- wouldn't surprise me

1 if they did. I think what I'm describing here is
2 something that I am aware of from this -- this
3 aspect of the documents, which is all I've seen, and
4 this is something that would contribute to that
5 relationship.

6 And even if it doesn't extend to all
7 manufacturers, to the extent any or some
8 manufacturers have the ability to make those
9 adjustments, it contributes to the linkages in the
10 industry, in the marketplace, because they're making
11 shifts in output that affect total output of those
12 product types.

13 BY MR. CARTER:

14 Q. So did you conduct any analysis of the cost
15 of switching production lines between CDTs and CPTs?

16 MR. RUSHING: Objection to form.

17 THE WITNESS: No, I have not done an
18 analysis of that type.

19 BY MR. CARTER:

20 Q. Did you conduct any analysis of the cost of
21 switching production lines between different sizes
22 of CRTs?

23 MR. RUSHING: Objection to form.

24 THE WITNESS: No. I don't recall having --
25 having information of the type that allowed me to do

1 that. I'm not sure that it would be necessary, but
2 I have not done a study of that type.

3 BY MR. CARTER:

4 Q. And did you conduct any analysis of the
5 amount of time that would be needed to switch over a
6 production line between sizes or types of CRTs?

7 MR. RUSHING: Objection to form.

8 THE WITNESS: Well, as I reference here in
9 this paragraph, at least for changes between sizes
10 in some of the things, that can be done very
11 quickly, even within the same day.

12 So to the extent your question just asked
13 about that, there's some information in that regard.

14 I don't -- we haven't done a study that
15 touched on the time it would take to switch between
16 CDT and CPT or vice versa.

17 BY MR. CARTER:

18 Q. So when you wrote in paragraph 59 that the
19 flexibility could create market pressure to realign
20 prices, you haven't looked at the degree of
21 flexibility that would be necessary to result in the
22 pressure that you're referring to in this sentence?

23 MR. RUSHING: Objection to form.

24 THE WITNESS: It's not something that I
25 could quantify, if that's what you mean by "the

1 degree of." But certainly to the extent that
2 there's flexibility, and there's some evidence that
3 there was some flexibility of manufacturers, that
4 contributes to those relationships that I address
5 with my analysis of the CRT prices in the industry.

6 MR. CARTER: I think we can take our next
7 break now.

8 Geoff, over there in California, I don't
9 have a preference of whether we take a short break
10 or if you want to take your lunch break now. Would
11 you rather wait till the next segment for the long
12 break?

13 MR. RUSHING: It's up to Dr. Johnson.

14 THE WITNESS: I am good with whatever works
15 for you. Whatever moves things along most
16 efficiently, I think, is what I prefer.

17 MR. RUSHING: Okay. Well, let's do a short
18 break then.

19 MR. CARTER: Very good. We'll see you a
20 little after 11: -- say 11:55.

21 MR. RUSHING: Okay.

22 MR. CARTER: All right.

23 THE VIDEOGRAPHER: The time is now
24 11:42 a.m., and we are off the record.

25 (Recess.)

1 THE VIDEOGRAPHER: The time is 11:59 a.m.,
2 and we are on the record.

3 MR. CARTER: Thank you.

4 Before we jump back and through the
5 questions, I just want to put the corrected exhibit
6 numbers on the record just so everybody's clear
7 about it.

8 So Exhibit 8544 will be the deposition
9 notice for Phillip Johnson.

10 (Exhibit 8544 was marked for identification
11 by the Certified Shorthand Reporter, and a
12 copy is attached hereto.)

13 MR. CARTER: Exhibit 8545 will be
14 Dr. Johnson's expert report.

15 (Exhibit 8545 was marked for identification
16 by the Certified Shorthand Reporter, and a
17 copy is attached hereto.)

18 MR. CARTER: And Exhibit 8546 is the court
19 opinion in the Scott v. Chipotle Mexican Grill case.

20 (Exhibit 8546 was marked for identification
21 by the Certified Shorthand Reporter, and a
22 copy is attached hereto.)

23 MR. CARTER: And I believe 8547 is already
24 correctly numbered.

25 ///

1 MR. RUSHING: Object to the form.

2 THE WITNESS: It's a chart of prices. It
3 doesn't -- yeah, it illustrates the relationship --
4 the relationship of prices across these regions. It
5 doesn't break that relationship down into
6 components.

7 BY MR. CARTER:

8 Q. Isn't it true that even a high degree of
9 correlation does not imply a causal relationship?

10 MR. RUSHING: Objection to form.

11 THE WITNESS: I would agree with that. I
12 would just add that observances of high degrees of
13 correlation can be supportive of there being a
14 causal relation. Also, it can depend upon the
15 nature of the correlations you examine. But in and
16 of itself, correlation isn't causation.

17 BY MR. CARTER:

18 Q. It's fair to say that looking at figures 14
19 and 15, the three price lines for North America,
20 China and rest of world price indices are all
21 trending downwards as CRT prices fell over time;
22 correct?

23 MR. RUSHING: Objection to the form.

24 THE WITNESS: I think as far as how I want
25 to address this trend would be done in different

1 ways. I certainly agree that for all three, the
2 prices start higher than they end up. So there's
3 time periods of upward movement and downward
4 movement and upward movement again and downward
5 movement again. But overall, from beginning of the
6 period to the end, prices of CRTs appear to have
7 been lower at the end than they were at the
8 beginning.

9 BY MR. CARTER:

10 Q. Are you familiar with the concept of
11 nonstationarity?

12 A. Yes, I've had some exposure to that.

13 Q. What do you understand the term
14 "nonstationarity" to mean?

15 MR. RUSHING: Objection to form.

16 THE WITNESS: As I recall, stationarity or
17 nonstationarity referred to whether a generating
18 process is -- I would characterize it being unmoving
19 over time. It would be variations around a common
20 or a consistent -- consistent place or...

21 BY MR. CARTER:

22 Q. Would you say the regional prices modeled
23 in figures 14 and 15 are nonstationary?

24 MR. RUSHING: Object to form.

25 THE WITNESS: I think I'd want to do some

1 further analysis before taking an opinion on that.

2 BY MR. CARTER:

3 Q. So I take it, then, that you haven't done
4 any analysis to adjust for nonstationarity of any of
5 the price trends shown in figures 14 and 15?

6 MR. RUSHING: Object to form.

7 THE WITNESS: Figures in 14 are
8 illustrating the matched model -- the Fisher
9 Matched-Model prices over that period of time.
10 There's no adjustment appropriate to that.

11 BY MR. CARTER:

12 Q. Are you familiar with the concept of a
13 cointegration test?

14 A. Yes, I have seen that.

15 Q. What's your understanding of the purpose of
16 the cointegration test?

17 MR. RUSHING: Object to form.

18 THE WITNESS: The cointegration tests refer
19 to temporal relationships between different series.

20 BY MR. CARTER:

21 Q. And what does it measure about those
22 temporal relationships?

23 MR. RUSHING: Object to form.

24 THE WITNESS: It looks at whether they're a
25 long run -- or whether there are long-run

1 relationships between the different series.

2 BY MR. CARTER:

3 Q. Your figures 14 and 15 are meant to
4 illustrate temporal relationships between CDT and
5 CPT prices across regions; correct?

6 MR. RUSHING: Object to form.

7 THE WITNESS: Yes.

8 BY MR. CARTER:

9 Q. And you did not perform a cointegration
10 test as part of your analysis of pricing across
11 regions; correct?

12 MR. RUSHING: Object to form.

13 THE WITNESS: Not on these series. I
14 looked at relationships between the prices in other
15 analyses.

16 MR. CARTER: Okay. I think we can take
17 another break now if you all wanted to take your
18 lunch break at this point. We could reconvene at
19 1:45 Pacific Time. Would that work?

20 MR. RUSHING: Sure. What time -- I mean,
21 how long would you intend to go? I'd rather take a
22 shorter break to avoid going, you know, too late,
23 but do you have an idea how much longer you want to
24 go in the afternoon?

25 MR. CARTER: So I think at this point I'll

1 be handing it over to John.

2 MR. TALADAY: Yeah. So I don't know
3 exactly, Geoff, but it's later for us here than it
4 is there. So we understand, but we, you know, we
5 need a lunch break here, too. And, again, it's
6 later here than it was there. So why don't we
7 reconvene at -- in an hour, basically, as Tom
8 suggested.

9 MR. RUSHING: Okay. Fine. So what are we
10 saying?

11 MR. TALADAY: We said 1:45 Pacific, 3:45
12 East Coast. Basically an hour.

13 MR. RUSHING: Okay.

14 THE VIDEOGRAPHER: The time is 12:44 p.m.,
15 and we are going off the record.

16 (Luncheon recess taken at 12:44 p.m.)
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1 THE WITNESS: So as far as the numbers, the
2 file starts with 8544. In the directory it says
3 deposition notice. I don't know if you meant --
4 mean to refer to the other file, at least in this
5 folder it starts with 8436. I know there's a
6 renumbering issue, I just don't want to be confused
7 on the numbers part of it.

8 MR. RUSHING: Well, my understanding is
9 that the expert report -- and I may not be right,
10 but I think it is important that we're all on the
11 same page -- is 8545.

12 MR. TALADAY: Geoff, thank you. I think
13 that's correct. So let me rephrase the question.
14 BY MR. TALADAY:

15 Q. Dr. Johnson, is Exhibit 8545 a copy of your
16 report?

17 A. Yeah, the file name I see in the folder, it
18 starts with 8545, and the appended file name has
19 what appears to be the file name of my -- my report.
20 And I can open it quickly and confirm it does -- in
21 the open pages, it does look like that's my report.

22 MR. RUSHING: I'd just point out for the
23 record, your -- the copy that we're looking at was
24 supplied by you, John. So I presume it's the
25 report, but I don't think Mr. -- Dr. Johnson has

1 gone through every page, but I presume it's the
2 report.

3 MR. TALADAY: We'll represent to you that
4 it's the report we received.

5 BY MR. TALADAY:

6 Q. Dr. Johnson, does the report that you
7 submitted in this case reflect your opinions with
8 respect to class certification?

9 A. It reflects my opinions on the assignment I
10 was given, which was described there, which relates
11 to some economic questions related to class
12 certification.

13 Q. And do those opinions reflect your judgment
14 about how to analyze those issues?

15 MR. RUSHING: Object to the form.

16 THE WITNESS: I analyzed them in this
17 matter, so I certainly judged that this is an
18 appropriate way to analyze those questions.

19 BY MR. TALADAY:

20 Q. So it reflects your judgment then?

21 A. My judgment, yes.

22 Q. And does it reflect your judgment about the
23 variables to consider when you conduct the tests
24 that you used to analyze these issues?

25 MR. RUSHING: Object to the form.

1 THE WITNESS: I'm not sure what test you're
2 referring to.

3 BY MR. TALADAY:

4 Q. Well, you conduct numerous tests, right,
5 throughout the report; is that correct?

6 MR. RUSHING: Object to the form.

7 THE WITNESS: I'm not sure that I do. What
8 tests are you referring to?

9 BY MR. TALADAY:

10 Q. Well, for example, the correlation studies,
11 there's a hedonic regression, there's a regression
12 analysis you used to estimate overcharges. Those
13 are all tests within your report; is that correct?

14 MR. RUSHING: Object to the form.

15 THE WITNESS: I don't think I characterize
16 them as tests. And I don't really think I agree
17 with that characterization either. The --

18 BY MR. TALADAY:

19 Q. How would you characterize them?

20 A. Well, as you recall, the overcharges
21 analysis, that provides an estimate of the
22 overcharges. So I would characterize that as an
23 estimation of overcharges in this matter.

24 Q. Do the estimations and analyses that you
25 conducted in the course of your report reflect your

1 judgment about the variables to include in those
2 estimations and analyses?

3 MR. RUSHING: Object to the form.

4 THE WITNESS: Certainly I used my judgment
5 in these analyses and determined that they were
6 appropriate for the questions I'm addressing.

7 BY MR. TALADAY:

8 Q. Ultimately this is your opinion and you
9 stand by the methodologies and conclusions that you
10 reached as you wrote this report; is that correct?

11 MR. RUSHING: Object to the form.

12 THE WITNESS: Yes, I do.

13 BY MR. TALADAY:

14 Q. And you also provided a list of source
15 material that you relied on in preparing your
16 report; is that correct?

17 A. Yes, I did.

18 Q. And was that list of source material
19 complete and accurate?

20 MR. RUSHING: Object to the form.

21 THE WITNESS: To my knowledge, it should be
22 complete and accurate.

23 MR. TALADAY: All right, Tom, could you
24 please bring up Exhibit 8545 and turn to paragraph 8
25 on page 3.

1 BY MR. TALADAY:

2 Q. And, Dr. Johnson, I understand that you
3 also have a hardcopy of this exhibit. And if you
4 prefer to refer to your hardcopy, I'm comfortable
5 with that.

6 A. I'm comfortable either way.

7 Q. All right. Could you please read the
8 introductory clause of paragraph 8 prior to the
9 subbullets.

10 A. (As Read:) "In the course of my work on
11 this assignment, my staff and I have reviewed
12 extensive data, documents and testimony developed
13 through the course of discovery in this case. A
14 list of the materials we have reviewed is included
15 in Exhibit 2. Based upon my review and analysis of
16 these materials, I have concluded that there is
17 evidence common to members of the proposed Class
18 that is sufficient to prove widespread impact. This
19 evidence involves:" and it goes through the bullet
20 points where you asked me to stop.

21 Q. So this reflects your conclusion that there
22 is evidence common to the members of the proposed
23 class; is that correct?

24 MR. RUSHING: Object to the form.

25 THE WITNESS: Yes.

1 my assignment and analyze those questions, which I
2 had done.

3 Q. Were you retained to provide an independent
4 report?

5 MR. RUSHING: Object to the form.

6 THE WITNESS: I'm not sure what you mean by
7 "independent report."

8 BY MR. TALADAY:

9 Q. Were you hired to -- anyone other than
10 yourself?

11 A. I'm sorry. Can you say that again?

12 Q. Yes.

13 Were you hired to provide the opinion of
14 anyone other than yourself?

15 MR. RUSHING: Object to the form.

16 THE WITNESS: No, I was asked to present my
17 opinion.

18 BY MR. TALADAY:

19 Q. You weren't hired to provide a communal
20 opinion of you and everyone else at Econ One;
21 correct?

22 MR. RUSHING: Object to the form.

23 THE WITNESS: That's correct. These are my
24 opinions.

25 ///

1 BY MR. TALADAY:

2 Q. You weren't hired simply to reiterate the
3 opinion of Dr. Leitzinger; is that correct?

4 MR. RUSHING: Object to the form.

5 THE WITNESS: I was not.

6 BY MR. TALADAY:

7 Q. And do you contend that this report
8 reflects your independent opinion?

9 MR. RUSHING: Object to the form.

10 THE WITNESS: This report reflects my
11 opinion. I'm not sure what the issue (audio
12 difficulties) the word independent means, but I was
13 not told by counsel or Dr. Leitzinger or anyone else
14 what opinions to take in this matter. These are my
15 opinions.

16 BY MR. TALADAY:

17 Q. So it's your opinion and not anyone else's
18 opinion; correct?

19 MR. RUSHING: Object to the form.

20 THE WITNESS: I wouldn't say it's not
21 anyone else's opinion. I expect that Dr. Leitzinger
22 would agree with me based upon his earlier analysis
23 and maybe others might agree with me as well, but
24 certainly this report reflects my opinions.

25 MR. TALADAY: Can we move -- please move to

1 paragraph 8 of Dr. Leitzinger's report.

2 BY MR. TALADAY:

3 Q. Dr. Johnson, can I ask you to please read
4 paragraph 8 in Dr. Leitzinger's report.

5 A. "CRTs were the dominant technology used in
6 televisions and computer monitors, automated teller
7 machines, gaming devices, measuring instruments and
8 electronic medical devices (collectively 'display
9 products') from the 1950s into the 2000s. Since
10 then, liquid crystal displays ('LCDs' or 'TFT-LCDs')
11 have supplanted CRTs in most display applications."

12 Q. Thank you. Dr. Johnson, can you please
13 read paragraph 10 of your report.

14 A. "CRTs were the dominant technology used in
15 televisions and computer monitors, automated teller
16 machines, gaming devices, measuring instruments and
17 electronic medical devices (collectively 'display
18 products') from the 1950s into the 2000s. Since
19 then, liquid crystal displays ('LCDs' or 'TFT-LCDs')
20 have supplanted CRTs in most display applications."

21 MR. RUSHING: Pardon me, but Dr. Johnson's
22 microphone seemed to have fizzled a bit at the end
23 of that. Is that -- did everybody catch that?

24 BY MR. TALADAY:

25 Q. Dr. Johnson, I'm afraid I'm going to have

1 MR. RUSHING: I don't understand what just
2 happened.

3 MR. TALADAY: Yeah. So my apologies,
4 Geoff. I got a note that my computer battery was
5 about to die --

6 MR. RUSHING: Oh, I see. Okay. No
7 worries.

8 MR. TALADAY: -- from my network and I had
9 to get a, you know, charge plug into it before it
10 died, so...

11 MR. RUSHING: Okay, no worries.

12 MR. TALADAY: Moment of panic.

13 BY MR. TALADAY:

14 Q. Dr. Johnson, it wouldn't surprise you if a
15 majority of the language in your report was
16 identical to the language in Dr. Leitzinger's
17 report; is that correct?

18 MR. RUSHING: Object to the form.

19 THE WITNESS: I haven't gone through to do
20 an analysis on that, but it wouldn't surprise me,
21 no.

22 BY MR. TALADAY:

23 Q. Is it fair to say, Dr. Johnson, that your
24 report is effectively a redline of Dr. Leitzinger's
25 report?

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1 data? You didn't use the same master dataset; is
2 that correct?

3 MR. RUSHING: Object to the form.

4 THE WITNESS: That's my recollection. If
5 there were -- if there were changes that occurred
6 with the underlying data after he had created his
7 master dataset, we certainly -- certainly would have
8 had that recreated and -- to use the most current
9 data and, in the process of doing this analysis, ran
10 these analyses from the start.

11 BY MR. TALADAY:

12 Q. Let me make sure I'm clear on this. Are
13 you saying, Dr. Johnson, that you would not have
14 simply adjusted the master dataset that
15 Dr. Leitzinger used to reflect the changes to that
16 dataset, but that you would have abandoned that
17 dataset entirely, gone back to the source data for
18 every defendant to recompile that to create a new
19 master dataset?

20 MR. RUSHING: Object to the form.

21 THE WITNESS: Well, I'm not sure the
22 implications of your characterization of abandoning
23 it, but the analysis that is done in this report was
24 done for this report.

25 ///

1 BY MR. TALADAY:

2 Q. Did the analysis that was done for this
3 report build on the dataset that was used by
4 Dr. Leitzinger in his report?

5 MR. RUSHING: Object to the form.

6 THE WITNESS: My recollection would be that
7 my staff would have recreated that dataset and not
8 used the actual data file that Dr. Leitzinger used.
9 So I think that that shouldn't -- that would have
10 been the case, although if the -- I didn't confirm
11 that, but that's my recollection of how we proceeded
12 in this case for this report.

13 BY MR. TALADAY:

14 Q. So it wouldn't surprise you, then,
15 Dr. Johnson, to learn that paragraph 10 of your
16 report was the same as paragraph 8 of Dr. John --
17 excuse me -- of Dr. Leitzinger's report; 11 of your
18 report was the same as paragraph 9 of
19 Dr. Leitzinger's report; paragraph 12 of your report
20 was identical to paragraph 10 of Dr. Leitzinger's
21 report; your paragraph 13 was identical to his
22 paragraph 11; your paragraph 14 was identical to his
23 paragraph 12; and that many other paragraphs, which
24 I would be happy to identify for you, are identical.
25 That wouldn't surprise you if that was the case,

1 would it?

2 MR. RUSHING: Object to the form. I mean,
3 asked and answered among many other things. I don't
4 know how many times we're going to go through this.

5 THE WITNESS: No, it wouldn't surprise me
6 if many of the paragraphs contained many of the same
7 words as Dr. Leitzinger's report.

8 BY MR. TALADAY:

9 Q. Did you rely on Dr. Leitzinger's report in
10 forming your opinions?

11 MR. RUSHING: Object to the form.

12 THE WITNESS: No, I wouldn't say I relied
13 on it. His report and my report share an origin in
14 looking at a lot of the same materials, the same
15 documents and data. And the analysis that is done
16 is done in very common ways.

17 But I don't -- I don't need to cite his
18 report because the analysis and the opinions and the
19 material that support those opinions and analysis
20 are contained within my report.

21 BY MR. TALADAY:

22 Q. So is your testimony you didn't rely at all
23 on Dr. Leitzinger's report to form your opinion?

24 MR. RUSHING: Object to form.

25 THE WITNESS: I'm sorry. You broke up

1 there, at least for me. Could you say that again?

2 BY MR. TALADAY:

3 Q. Yes.

4 So it's your testimony that you did not
5 rely at all on Dr. Leitzinger's report in forming
6 your opinion; is that correct?

7 MR. RUSHING: Object to the form.

8 THE WITNESS: The report is an expression
9 of Dr. Leitzinger's opinion, his report is an
10 expression of his opinions and analysis that he --
11 that's done in his report.

12 My report is a reflection of the analysis
13 done in my report, the materials reviewed in my
14 report, and contains the opinions. It's --
15 Dr. Leitzinger's report is not a source document or
16 a piece of evidence in this case that I would rely
17 on.

18 BY MR. TALADAY:

19 Q. I think you said before that it's no
20 coincidence that some of your language was identical
21 to Dr. Leitzinger's language; is that correct?

22 MR. RUSHING: Object to the form.

23 THE WITNESS: I don't recall whether I said
24 those words or not, but it's -- I wouldn't call it a
25 coincidence.

1 BY MR. TALADAY:

2 Q. So it was purposeful that you used the same
3 words?

4 MR. RUSHING: Object to the form.

5 THE WITNESS: These words do a good job of
6 expressing the opinions that I have and the material
7 that I think is relevant to those opinions, and so I
8 saw no reason to artificially change to different
9 words to express the same opinions that I have.

10 BY MR. TALADAY:

11 Q. (Audio difficulties). I think we get the
12 gist. Thank you.

13 MR. RUSHING: Did somebody just say
14 something?

15 THE WITNESS: It seemed like there was a
16 breakup there. If there was a question, I didn't
17 hear it.

18 BY MR. TALADAY:

19 Q. I just said thank you.

20 Could you please turn to paragraph 27 of
21 your report.

22 A. Yes, I'm there.

23 Q. (Audio difficulties) you state, "To
24 reflect product characteristics, I
25 included information from the transaction data

1 regarding the CRT size, whether it was widescreen,
2 whether ITC or bare, transition quantity, and an
3 indicator for the brand."

4 Can you please state why it is that brand
5 matters?

6 MR. RUSHING: Objection. You -- the first
7 part of your question was garbled, John.

8 MR. TALADAY: I'll try it again, Geoff.

9 BY MR. TALADAY:

10 Q. Dr. Johnson, did you hear my question?

11 A. I didn't hear the very first part of it.
12 It was garbled for me as well.

13 Q. I simply read the sentence beginning with
14 the words, "To reflect product characteristics."

15 Can you please review (audio difficulties).

16 MR. RUSHING: This is -- this is on page 27
17 of Dr. Johnson's report?

18 MR. TALADAY: Paragraph 27, page 16.

19 MR. RUSHING: Oh, sorry.

20 MR. TALADAY: Tom, you can take down the
21 Leitzinger report.

22 THE WITNESS: So, I'm sorry. Again, you
23 were garbled again in what you just said. I think
24 you asked me to read part of the paragraph starting
25 with "reflect"; is that correct?

1 types of products were actively and consistently
2 targeted by the cartel members.

3 This paragraph here is talking about the
4 significance of those products within the shipments
5 by defendants.

6 So my opinion is that those products were
7 impacted by the price targeting. That opinion is in
8 part based upon the target price analysis, and also
9 in part based upon other documents that I have seen
10 and depositions referencing the breadth and the
11 extent of the cartel's price fixing efforts.

12 BY MR. TALADAY:

13 Q. The last sentence says that, "That result,
14 by itself, goes a long way towards establishing the
15 existence of a broad impact on the part of the
16 alleged conspiracy."

17 What result is it that you're referring to
18 there?

19 MR. RUSHING: Objection to form.

20 THE WITNESS: It's the result about the
21 share of shipments accounted for by the products
22 which the cartel is known to have targeted, known to
23 have targeted with regard to price communication.

24 BY MR. TALADAY:

25 Q. When a price target is set, how long does

1 it last?

2 MR. RUSHING: Objection to form.

3 THE WITNESS: What do you mean by "how long
4 does it last"?

5 BY MR. TALADAY:

6 Q. For how long is that price target in
7 effect?

8 A. Are you asking me how long the impact of
9 that -- that price -- that collusion persists?

10 Q. No.

11 What I'm asking is, based on your review
12 and analysis of all of the documents reflecting
13 price targets, when the competitors set a price
14 target, for how long typically was that price target
15 intended to be in effect with respect to their sales
16 of products?

17 A. There were frequent meetings. And the
18 meetings (audio difficulties) new price targets. So
19 the -- I think that it depends upon the instance
20 that you're talking about.

21 Q. And there were frequent meetings because --
22 well, why? Why were there frequent meetings?

23 MR. RUSHING: Objection to form.

24 THE WITNESS: I'm not sure of all of the
25 reasons, but the way it's known as a matter of

1 economics, is a monopolist or a cartel will want to
2 adjust its conspiracy price for market conditions,
3 for the discipline in instances there are thought to
4 have been participants who are not fully
5 implementing the cartel price. There could be a
6 whole range of things that cause the cartel to want
7 to make adjustments to its cartel or target price.

8 BY MR. TALADAY:

9 Q. And there are instances with respect to
10 some sizes of some products where new price targets
11 were set almost monthly for periods of time; is that
12 correct?

13 MR. RUSHING: Objection to form.

14 THE WITNESS: I think, yeah.

15 BY MR. TALADAY:

16 Q. And there are instances where you identify
17 multiple price targets for the same product in the
18 same month; isn't that correct?

19 MR. RUSHING: Objection to form.

20 THE WITNESS: There were -- there are
21 instances where there were ranges covering multiple
22 products of a type. And there were, you know,
23 multiple meetings and multiple discussions. So,
24 yes, that might be the case.

25 ///

1 BY MR. TALADAY:

2 Q. Do you think in part that was the result of
3 changing market conditions; is that correct?

4 MR. RUSHING: Objection to form.

5 THE WITNESS: I don't think that's an
6 accurate characterization of my answer.

7 BY MR. TALADAY:

8 Q. I'm sorry, could you repeat that,
9 Dr. Johnson?

10 A. I don't think that's an accurate
11 characterization of my view or the answer to that
12 question.

13 Q. Did you state that market conditions could
14 be one of the reasons -- changing market conditions
15 could be one of the reasons that they would meet
16 frequently to reset price targets?

17 MR. RUSHING: Objection to the form.

18 THE WITNESS: I said that changing market
19 conditions could be one of the reasons for them to
20 adjust prices or price targets, yes.

21 BY MR. TALADAY:

22 Q. Thank you.

23 And there were separate price targets set
24 for different sizes of products; isn't that correct?

25 MR. RUSHING: Object to the form.

1 MR. TALADAY: Yeah, I believe at this point
2 in time it's been organized by date. I don't want
3 to say reorganized, because I'm not sure the exact
4 version. This is just how -- it appeared
5 differently when we converted it from the -- you
6 know, the original format to Excel, but it's the
7 same data, just organized by date. That's what
8 you're seeing right now. Okay.

9 BY MR. TALADAY:

10 Q. So, Dr. Johnson, what is the earliest
11 target price that you identified?

12 A. I don't recall the earliest date from
13 memory off the top of my head. But if you want to
14 ask me about what I'm seeing here, you're welcome to
15 do so.

16 Q. Yeah, yeah. Are you able to tell from this
17 file, assuming it's correctly organized by date,
18 what the earliest target price you found is?

19 A. The first entry in this file is a line that
20 begins with Bates number CHU00028869. And the
21 second column has in it a date of August 16, 1995.

22 Q. And do you see any other target prices for
23 any other -- excuse me. Let me strike that.

24 Can you tell us what type of product and
25 what size of product that target price was set for?

1 BY MR. TALADAY:

2 Q. Yes. But in explaining that, you didn't
3 limit yourself simply to the target price analysis.
4 You've included the allegations on the plaintiffs'
5 complaint; right?

6 MR. RUSHING: Objection to form.

7 THE WITNESS: No, that's not correct.

8 BY MR. TALADAY:

9 Q. What's the first date upon which you see a
10 target price for 17-inch CDTs? And if you like,
11 Dr. Johnson, we can, you know, manipulate this to
12 organize it by 17-inch CDTs if you'd like.

13 A. Looking at the screen that you have shared
14 with me, assuming that this is ordered by date, the
15 first line upon which I see 17-inch CDT appears to
16 be in the fourth quarter of 1996.

17 Q. Is it your testimony that the price targets
18 set in the fourth quarter of 1996 was effective
19 retroactively?

20 A. No, I don't have that opinion.

21 MR. RUSHING: Objection to form.

22 BY MR. TALADAY:

23 Q. It couldn't have applied to shipments that
24 were made prior to the price target being set;
25 right?

1 MR. RUSHING: Objection to form.

2 THE WITNESS: I don't believe that that
3 would be the case.

4 BY MR. TALADAY:

5 Q. But all of the shipments prior to that date
6 that were included in the data are included in your
7 calculation of CDT share; right?

8 MR. RUSHING: Objection to form.

9 THE WITNESS: As we've discussed a number
10 of times now, the numbers -- the share for 17-inch
11 CDT and that calculation reflects the share of sales
12 of that product over the -- within the data.

13 BY MR. TALADAY:

14 Q. So that's a yes?

15 MR. RUSHING: Objection to form.

16 MR. TALADAY: Tom, let me ask you to
17 reorganize the data now by product -- well, I'd ask
18 you to look at CPTs, 25-inch CPTs only. And do it
19 slowly, please, so that there's time for the video
20 to watch it.

21 I'm sorry, Tom, let me restate this. Can
22 you organize it just by CDTs and then in date order?

23 MR. RUSHING: And, again, I'm sorry. I
24 didn't hear that.

25 MR. TALADAY: Yes, yes. I'm looking for an

1 organization of only CPTs by date, chronological
2 date. So in other words, a subset of the previous
3 view that only looks at CPTs.

4 BY MR. TALADAY:

5 Q. Dr. Johnson, the first price target that
6 you identified for CPTs has a date of April 16,
7 1997, assuming this data is correct; right?

8 MR. RUSHING: Objection to form.

9 THE WITNESS: So just to make sure I'm
10 clear, so you're saying this is sorted by type,
11 showing CPTs first, and then by date in ascending
12 date order; is that correct?

13 BY MR. TALADAY:

14 Q. That's almost correct. I believe that it
15 doesn't show CPTs first. It shows only CPTs. I
16 believe the CDTs have been hidden.

17 A. Okay. Then I believe your question was
18 what's the first date -- I'm sorry. Maybe just
19 repeat your question for me. Getting a little late.

20 Q. Yes.

21 Again -- and for all questions with respect
22 to the data, make the assumption that the data is
23 correct so I don't have to keep repeating that.

24 The first date for which you find a price
25 target for CPTs, according to the data, is

1 April 1997; right?

2 MR. RUSHING: Objection.

3 THE WITNESS: That's what this document
4 appears to indicate.

5 BY MR. TALADAY:

6 Q. And the only entries effective for 1997
7 were for 20-inch and 14-inch CPTs; correct?

8 A. For that date of -- for that document for
9 that date of -- that's dated April 16, 1997, yes, I
10 see entries for 14-inch and 20-inch.

11 Q. And there are additional entries for
12 December 1997, effective 1998, that only apply to
13 the 14-inch CPTs; correct?

14 MR. RUSHING: Objection to form.

15 THE WITNESS: All the entries I see for
16 that document dated -- or the records dated
17 December 3, 1997, appear to be CPT 14-inch.

18 BY MR. TALADAY:

19 Q. In your calculation of the 98.16 percent,
20 you included all shipments of '95 and '96 for all
21 CPTs, correct, for all sizes?

22 MR. RUSHING: Objection to form.

23 THE WITNESS: That's correct.

24 BY MR. TALADAY:

25 Q. Let me restate that. I actually think I

1 got that wrong. So I'll ask it again. I was
2 looking at the CDT number rather than the CPT
3 number. So here's the question.

4 In your calculation of the 90.19 percent
5 with respect to CPTs, you include all shipments for
6 all sizes of CPTs in 1995 and 1996; correct?

7 MR. RUSHING: Objection to form.

8 THE WITNESS: Right. In the 90.19 percent,
9 that includes all shipments of targeted products
10 that occurred during the class period, including
11 that period of time you're referencing.

12 BY MR. TALADAY:

13 Q. And there are no price targets that you
14 identified for either 1995 or 1996 for any CPT;
15 correct?

16 MR. RUSHING: Objection to form.

17 THE WITNESS: That's correct.

18 MR. TALADAY: Tom, let me ask you to
19 organize now within CPTs by size. And let me ask
20 you to go to 15-inch CPTs.

21 BY MR. TALADAY:

22 Q. Dr. Johnson, the first price target -- can
23 you identify the first price target you found for
24 15-inch CPTs?

25 MR. RUSHING: Objection to form.

1 MR. TALADAY: Let me introduce a document
2 that we'll mark as Exhibit 8550, if I have that
3 correct.

4 (Exhibit 8550 was marked for identification
5 by the Certified Shorthand Reporter, and a
6 copy is attached hereto.)

7 MR. TALADAY: And, Tom, can you please
8 publish the document marked as IRI-CRT-00031457 to
9 00031468. And can you please publish that one?
10 Thank you.

11 BY MR. TALADAY:

12 Q. Dr. Johnson, I will represent to you that
13 this is a translation of internal Irico documents,
14 and you're welcome to look at the document, but I
15 will refer you in particular to page 0031459.

16 MR. RUSHING: So, counsel, when was this
17 document produced in discovery?

18 MR. TALADAY: I don't know when, Geoff. I
19 don't remember exactly when. It's obviously been
20 marked. I could ask Tom if you have an answer to
21 that question, or Drew. In any event, it's an
22 exhibit now, so...

23 MR. RUSHING: Well, okay. I'd like to be
24 able to review this document.

25 MR. TALADAY: Well, Geoff, you can review

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1 it in your own time, but this is Dr. Johnson's time.

2 MR. RUSHING: Well, no. No. I want to
3 look at this document. So let me hold on and see if
4 I can get back into the -- to the document viewer
5 thing here.

6 BY MR. TALADAY:

7 Q. Dr. Johnson, if you would like to see other
8 pages, just let us know. Happy to --

9 A. Okay. I haven't -- I don't recall this
10 document, so...

11 Q. Well, let me get my question on record,
12 Dr. Johnson, and then you can --

13 MR. RUSHING: Is this -- pardon me -- in
14 the chat? The thing that -- is there a link that I
15 can -- is that link in the chat one that I can click
16 on?

17 MR. TALADAY: It's been uploaded to the
18 document page.

19 MR. CARTER: The link in the chat is a link
20 to the shared marked exhibits page.

21 MR. RUSHING: Okay. Thank you.

22 BY MR. TALADAY:

23 Q. Dr. Johnson, here's my question. And
24 again, you can feel free to review the document as
25 you like.

1 Were you aware of Chinese price regulations
2 that set a floor price for certain sizes of CRT
3 tubes?

4 MR. RUSHING: Objection to form.

5 THE WITNESS: No, I'm not -- I'm not
6 familiar with those sorts of regulations.

7 MR. TALADAY: All right. I'm done with
8 this document.

9 Tom, I would ask you to publish the other
10 document that we discussed which will be marked as
11 Exhibit 8551. And publish it when you can, Tom.

12 (Exhibit 8551 was marked for identification
13 by the Certified Shorthand Reporter, and a
14 copy is attached hereto.)

15 MR. TALADAY: And, Geoff, for your
16 purposes, this document was an exhibit to one of our
17 motions filed, you can see 12/21/2017.

18 And, Tom, can you please go to the next
19 page. And the next, please.

20 MR. RUSHING: And are we -- are we marking
21 this? Has this got an exhibit number?

22 MR. TALADAY: Yeah, I believe I identified
23 this as Exhibit 8551.

24 BY MR. TALADAY:

25 Q. Have you had a chance to review this page,

1 Dr. Johnson?

2 A. Sorry. Give me a moment to finish
3 reviewing this.

4 Okay. I've read the paragraph.

5 Q. I'm going to spare you, Dr. Johnson. I
6 will read this paragraph instead of asking you to do
7 it, or at least portions of it.

8 So this is addressed -- there's a date at
9 the top of the year 2000. There is a note that
10 says -- a line that says, "To color CRT
11 manufacturing enterprises." And it says, it reads,
12 "To prevent actions of unfair price competition in
13 the color CRT industry and maintain a normal market
14 order, the industrial average production costs of
15 three types of color CRTs, i.e. 21 inches, 25 inches
16 and 29 inches, are hereby published (see the
17 attached table for details) pursuant to the Trial
18 Measures to Prevent Unfair Price Competition
19 Regarding Color CRTs and Color TVs by the State
20 Planning Commission and the Ministry of Information
21 Industry. All color CRT manufacturing enterprises
22 are asked to seriously implement the costs. In the
23 case where a manufacturing enterprise sells the
24 products at prices lower than the published
25 industrial average production costs to cause market

1 disorders and harm the interests of other
2 manufacturing enterprises, a harmed enterprise may
3 file a report with the State Planning Commission or
4 a competent department in charge of prices of a
5 province, autonomous region or municipality directly
6 under the Central Government. In the cases where it
7 is confirmed through investigation that there is
8 indeed an action of unfair price competition, a
9 competent government department in charge of prices
10 shall order the responsible party to correct and
11 impose penalties according to specific situations."

12 Did I read that roughly accurately,
13 Dr. Johnson?

14 MR. RUSHING: Objection to form. I mean,
15 go ahead.

16 THE WITNESS: I didn't listen to the whole
17 paragraph with an eye towards correcting, you know,
18 misstatements or misphrasings that you may have had,
19 so I don't want to be the -- that's what you have
20 the court reporter for. But I see the document here
21 and I can read the document if I need to.

22 BY MR. TALADAY:

23 Q. Were you aware of pricing regulations
24 established by the State Planning Commission and
25 administrative information industry on color CRT

1 manufacturing enterprises in the year 2000?

2 MR. RUSHING: Objection to form.

3 THE WITNESS: I don't recall as I sit here
4 having a great deal of information about that. I
5 may have heard something about an issue there at
6 some point, and I may have -- I may have seen this
7 document before. I don't really recall as I sit
8 here.

9 BY MR. TALADAY:

10 Q. Okay. It is possible, isn't it,
11 Dr. Johnson, that these price regulations, to the
12 extent that they imposed a price floor for CRT
13 manufacturers, could have impacted the ability of a
14 defendant subject to these regulations to charge the
15 but-for prices in your analysis; isn't that right?

16 MR. RUSHING: Objection to form.

17 THE WITNESS: I'm not really sure without
18 knowing anything about the constraints that they
19 purport to impose here about particular costs, how
20 this compared to prices and whether -- how they were
21 enforced or not enforced. I mean, I suppose it's
22 also possible that if the market prices had been
23 different, maybe this ministry would have undertaken
24 a different action. You know, it's -- this is --
25 this was issued in the context of the actual prices.

1 In a but-for world, I don't know whether this -- if
2 it had some -- posed some serious constraint,
3 whether that constraint would have been the same or
4 have had to have been revised. I really don't have
5 the context to do a but-for analysis on this
6 document.

7 BY MR. TALADAY:

8 Q. Would it have mattered to you in your
9 assessment of overcharges whether there were price
10 regulations establishing price floors above your
11 but-for prices?

12 MR. RUSHING: Objection to form.

13 THE WITNESS: My analysis utilized actual
14 prices. So if there were things that affected
15 actual prices, it would be -- would be reflected or
16 would have impact on that analysis. To the extent
17 that there are significant events in the global
18 market, I'm not sure that the actions of the
19 Ministry of Information in China by itself would
20 have been substantial to have a measurable
21 substantial effect on the analysis of global CRT
22 prices and the global CRT overcharge.

23 So I don't -- I would be surprised if
24 information of this type would have had an impact
25 on -- substantial impact on my analysis.

EXHIBIT 2

HIGHLY CONFIDENTIAL

Page 1

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

)
IN RE: CATHODE RAY TUBE (CRT))
ANTITRUST LITIGATION)
_____) Master File
) No. 3:07-cv-05944 SC
This Document Relates to:) MDL No. 1817
)
ALL ACTIONS)
)
)
_____)

HIGHLY CONFIDENTIAL VIDEOTAPED 30(b)(6) DEPOSITION
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July 3, 2012
Atlanta, Georgia

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1 television sales in the United States? 09:41:12

2 A. That was our primary market. 09:41:14

3 Q. And was that your primary market because 09:41:17

4 the purchasers of your CPT tubes sold televisions in 09:41:23

5 the United States? 09:41:30

6 A. That's one way of putting it, yeah. 09:41:32

7 Q. How would you put it, if -- 09:41:37

8 A. My customers sold televisions, and I sold 09:41:39

9 to them. So I needed to know what they were looking 09:41:44

10 for, use that data to determine what was going to 09:41:46

11 happen to our market, was happening to our market. 09:41:52

12 Q. And your customers sold televisions in the 09:41:55

13 United States? 09:41:58

14 A. And -- yeah, in Mexico and South America. 09:41:58

15 Q. And did you, in any way, track the -- 09:42:02

16 which of the finished televisions were sold 09:42:31

17 ultimately, or were shipped to, or billed to the 09:42:36

18 United States? 09:42:39

19 A. Not really, no. 09:42:41

20 Q. And do you know what -- do you have a 09:42:42

21 sense of what percentage of the overall CPT sales of 09:42:45

22 your customers were shipped or billed to the United 09:42:50

23 States? 09:42:54

24 MR. ROGER: Objection. Vague as to time. 09:42:54

25 BY MS. ANDERSON: 09:42:58

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1 Q. Unless otherwise stated, the time period 09:42:59

2 I'm talking about in this deposition will be from 09:43:01

3 1994 to 2005. 09:43:05

4 MR. ROGER: Same objection. You may 09:43:07

5 answer. 09:43:15

6 A. It's very small what we knew. You mean 09:43:16

7 outside the United States you're asking; correct? 09:43:20

8 Just so I'm sure -- 09:43:23

9 BY MS. ANDERSON: 09:43:23

10 Q. I'll rephrase. 09:43:24

11 A. -- did I understand the question? 09:43:25

12 Q. I'll rephrase the question. 09:43:27

13 Do you know what percentage of televisions 09:43:29

14 with CPT tubes that your customers sold were billed 09:43:34

15 or shipped to the United States? 09:43:38

16 A. Oh, I don't. I do not. We made the 09:43:39

17 assumption it was very high, but it's total 09:43:44

18 assumption. 09:43:46

19 Q. And what do you mean by "very high"? 09:43:48

20 A. I would say probably more than 95 percent. 09:43:51

21 Q. Okay. I'm going to back up a little bit 09:43:57

22 and focus for a moment on the CDTs and CPTs that 09:44:28

23 HED/US manufactured and sold. 09:44:35

24 During what years did HED/US manufacture 09:44:38

25 CPTs? 09:44:41

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1 A. From 1991 until 2001. 09:44:43

2 Q. Okay. And what size ranges was it 09:44:50

3 manufacturing? 09:44:54

4 A. We primarily made 25-inches, 27-inches in 09:44:56

5 the beginning from 1991 until about 1995 when we went 09:45:00

6 to 31 and 32, I believe. And then probably in the 09:45:07

7 late 1990s, we introduced a 36-inch. 09:45:12

8 Q. Okay. And why were you moving towards the 09:45:24

9 larger CPTs as time passed? 09:45:27

10 A. That's where the U.S. market was moving. 09:45:31

11 Q. U.S. market in -- what do you mean by U.S. 09:45:37

12 market? U.S. market for what? 09:45:40

13 A. The consumers were buying larger and 09:45:42

14 larger televisions, so we moved up larger and larger 09:45:44

15 TVs. 09:45:48

16 Q. Starting with the CPTs, what are the major 09:45:52

17 components of a CPT? 09:45:54

18 A. The major components are going to be a 09:45:56

19 funnel, a faceplate, a shadow mask, a electron gun. 09:46:02

20 Q. Okay. And what about the glass bulb? 09:46:20

21 A. Well, you don't get a glass -- when you're 09:46:28

22 making color picture tubes, you need a funnel and a 09:46:29

23 faceplate in order to get a glass bulb, because they 09:46:31

24 are frit sealed together. In our manufacturing, you 09:46:37

25 couldn't do them without them being separate 09:46:39

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1	A.	It should, yes.	09:51:44
2	Q.	-- recorded somewhere --	09:51:44
3	A.	Part number should, yes.	09:51:45
4	Q.	-- to indicate that?	09:51:45
5	A.	Yes.	09:51:46
6	Q.	And did that impact the sales price?	09:51:46
7	A.	Of course.	09:51:49
8	Q.	Okay. And any other major components of a	09:51:49
9		CPT that you can think of?	09:52:10
10	A.	Not major components. You know, phosphor,	09:52:11
11		of course, but...	09:52:15
12	Q.	Okay. And are there other materials that	09:52:19
13		you wouldn't consider major in addition to phosphor?	09:52:23
14	A.	Yes.	09:52:26
15	Q.	What types of materials?	09:52:26
16	A.	You have internal graphite coating, as I	09:52:27
17		said, you'd have phosphor. You'd have -- there is	09:52:31
18		probably a -- you know, a pin connector on the back,	09:52:38
19		pin protector, not a pin connector, pin protector on	09:52:41
20		the back. Pretty much, that's it.	09:52:46
21		There would be some magnets that you would	09:52:49
22		use on pinning the yoke to the CRT. Other than that,	09:52:51
23		that's pretty much it.	09:52:55
24	Q.	And the components that we just discussed	09:52:56
25		for CPTs, are those the same major components for a	09:52:58

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		Page 47
1	CDT?	09:53:02
2	A. Do you mean are they interchangeable, if I	09:53:09
3	took one from a CPT and I put it on a CDT, it would	09:53:12
4	work?	09:53:16
5	Q. Well, let's ask that, yes.	09:53:16
6	A. No.	09:53:17
7	Q. Okay. So why are they not	09:53:17
8	interchangeable?	09:53:19
9	A. Typically, the deflection yoke on a CDT	09:53:20
10	was much higher frequency.	09:53:23
11	And typically the shadow mask and -- well,	09:53:25
12	first of all, the sizes of a CDT were much smaller	09:53:31
13	than picture tubes, typically, and so, therefore, you	09:53:35
14	had a higher resolution. So the shadow mask was not	09:53:37
15	interchangeable.	09:53:41
16	Phosphors, of course, you could probably	09:53:42
17	use, but typically phosphors for a CDT were different	09:53:43
18	than phosphors for picture tubes, or for televisions.	09:53:47
19	Q. Mm-hmm.	09:53:51
20	A. And, of course, the electron gun is	09:53:52
21	totally different because it's much finer resolution.	09:53:55
22	Q. Okay. And what about the glass bulbs?	09:53:57
23	A. No.	09:54:01
24	Q. And let's see. I'm just comparing my	09:54:02
25	list. Just one moment.	09:54:08

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1 Okay. So it's my understanding -- 09:54:15

2 withdraw that question. 09:54:16

3 So does a CDT contain essentially these 09:54:17

4 major components even if they aren't interchangeable? 09:54:23

5 What I'm trying to ask, are theses -- is this still 09:54:27

6 the list of major components that you would list for 09:54:29

7 a CDT? 09:54:32

8 A. Yes. 09:54:33

9 Q. Okay. And what types of specifications 09:54:34

10 differentiate one CPT from another? For example, we 09:54:39

11 talked about one specification might be the size. 09:54:44

12 A. So. Typically, each customer because of 09:54:53

13 how their chassis was designed in their television, 09:55:01

14 each bare picture tube may be the same. 09:55:06

15 But when you sold it as an ITC'd unit, 09:55:09

16 they were typically custom for that particular 09:55:12

17 customer because the chassis interfaced between the 09:55:16

18 yoke, and the television was completely different. 09:55:20

19 And you had to match the yoke, the ITC TV to their 09:55:23

20 chassis. 09:55:27

21 And so typically, you would have even 09:55:28

22 though we made, say, two variations of a 27V picture 09:55:32

23 tube, you might have six or seven variations that 09:55:36

24 went to your different customers who were buying 27V 09:55:40

25 picture tubes from you. 09:55:45

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1 And the same goes for 32 or a 36. 09:55:46

2 25s, as I mentioned earlier, we didn't -- 09:55:51

3 those were primarily sold just as a bare picture 09:55:54

4 tube. So, for the most part, we may have had one or 09:55:57

5 two specifications for that 25V picture tube. 09:56:01

6 REPORTER: Control O to toggle in and out, 09:56:01

7 Counsel. 09:56:01

8 BY MS. ANDERSON: 09:56:05

9 Q. Okay. So you mentioned that for 09:56:05

10 variations of particular size picture tube, you said 09:57:01

11 you might have two variations of a 27 picture -- 09:57:07

12 27-inch picture tube. 09:57:12

13 What were those variations be? 09:57:14

14 MR. ROGER: Objection, misstates. You may 09:57:19

15 respond. 09:57:21

16 A. There might have been a different electron 09:57:22

17 gun in them for particular reasons. 09:57:26

18 Either one was a -- we thought was maybe a 09:57:29

19 higher performance electron gun versus the other one. 09:57:31

20 We might have been trying a new design, so therefore, 09:57:36

21 one design was going out, the one design was coming 09:57:39

22 in. 09:57:42

23 BY MS. ANDERSON: 09:57:47

24 Q. And as far as the six or seven variations 09:57:47

25 in your example that went to different customers, 09:57:53

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		Page 50
1	would those all be tied to the chassis, and whether	09:57:57
2	the deflection yoke needs to fit that particular	09:58:02
3	chassis?	09:58:05
4	A. Yes.	09:58:06
5	Q. And how many variations during that time	09:58:06
6	frame that we're talking about were there of the	09:58:09
7	color television chassis?	09:58:11
8	A. I have no idea. From chassis --	09:58:14
9	Q. Okay.	09:58:17
10	A. -- I have no idea.	09:58:18
11	Q. And so when you manufactured the CPTs --	09:58:19
12	withdraw that question.	09:58:33
13	At what point was the deflection yoke	09:58:39
14	added to the tube?	09:58:44
15	A. At the end of the manufacturing process.	09:58:47
16	Q. And could these variations that were	09:58:52
17	required by the television manufacturers be addressed	09:58:59
18	by using essentially the same CPT and then assessing	09:59:06
19	what type of deflection yoke needed to be added to it	09:59:11
20	at the very end of the manufacturing process?	09:59:15
21	A. Theoretically, yes.	09:59:20
22	Q. Why do you say theoretically?	09:59:26
23	A. Because that wasn't how we ran our	09:59:28
24	production line.	09:59:30
25	Q. How did you run your production line?	09:59:31

EXHIBIT 3

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION
No. 07-cv-05944 SC
This Document Relates to: MDL No. 1917
...(continuing caption page 2)

SUPERIOR COURT OF THE STATE OF CALIFORNIA
CITY AND COUNTY OF SAN FRANCISCO

STATE OF CALIFORNIA, et al.,
Plaintiffs,
v.
SAMSUNG SDI, INC., CO., LTD,
et al.,
Defendants.

HIGHLY CONFIDENTIAL
DEPOSITION OF PHILIPS ELECTRONICS
NORTH AMERICA CORPORATION, INC.
AND KONINKLIJKE PHILIPS ELECTRONICS N.V.

By and through their Corporate Designee,
ROGER DE MOOR
Washington DC
Tuesday, July 31, 2012
9:13 a.m.

1 MR. BERMAN: I'm sorry. I'm going to 09:44:20

2 object to that. I just don't understand that 09:44:21

3 question. 09:44:24

4 MS. ZAHID: Okay. 09:44:25

5 BY MS. ZAHID: 09:44:25

6 Q If you understand, sir. 09:44:28

7 A What I would like to say about this is that 09:44:29

8 the responsibilities are very much delegated. There 09:44:33

9 are guidelines coming from the product division and 09:44:37

10 from the business groups. But the operational 09:44:40

11 responsibilities are in the region. So 09:44:43

12 operationally, it's PENAC responsible. 09:44:47

13 Q So the US tubes being manufactured in 09:44:50

14 Ottawa, where were they generally intended to be 09:44:53

15 used, in which markets? 09:44:58

16 A In the North American market. 09:44:59

17 Q Did any of the tubes manufactured in Ottawa 09:45:01

18 get produced to be sent outside of North American 09:45:05

19 markets? 09:45:09

20 A Some. 09:45:10

21 Q A small portion of them? 09:45:10

22 A Small portion. 09:45:12

1 Q Were there any other tube manufacturers as 09:45:16
2 part of Philips global that manufactured tubes to be 09:45:22
3 sent into the northern American market other than the 09:45:26
4 Ottawa location? 09:45:29
5 MR. BERMAN: Objection, vague. 09:45:31
6 BY MS. ZAHID: 09:45:32
7 Q Does that make sense? 09:45:33
8 A Yes. 09:45:34
9 Q Where were other tubes coming from for 09:45:35
10 North America, if not the Ottawa plant, other Philips 09:45:38
11 plants? 09:45:44
12 A Mainly from Brazil. 09:45:44
13 Q Were those going into the US market? 09:45:46
14 A Some did. But went into the North American 09:45:50
15 market, Mexico. That's the majority where they went. 09:45:56
16 Q So it's fair to say that most of the 09:45:59
17 Philips tubes being used in the US market were coming 09:46:03
18 out of Ottawa during the time period up until 2001? 09:46:06
19 A Correct. 09:46:10
20 Q I wanted to ask just the same question, 09:46:21
21 when LPD was formed in July of 2001, and you were 09:46:28
22 part of the process of closing Ottawa and shifting 09:46:35

1 the productions to Gomez Palacio in Mexico, do you 09:46:38
2 know if the tubes coming out of Gomez Palacio were 09:46:42
3 mostly intended for the US market? Or were they 09:46:50
4 going to other markets besides the United States? 09:46:55
5 MR. BERMAN: I'm just going to say on the 09:46:56
6 record that to the extent this answer involves 09:47:00
7 operations of LPD and not a Philips entity, it's 09:47:03
8 beyond the scope -- he is not a Philips 09:47:06
9 representative on those topics. If he knows the 09:47:09
10 answer personally, he can answer. 09:47:11
11 MS. ZAHID: Right. 09:47:13
12 BY MS. ZAHID: 09:47:13
13 Q Your personal knowledge, not -- 09:47:13
14 A That indeed -- they were just replacing the 09:47:15
15 Ottawa activity and continued in the same market. 09:47:18
16 Q So what you just said was true for most of 09:47:23
17 the tubes coming out of Ottawa were intended for use 09:47:28
18 in the US, I can say is the same for Gomez Palacio, 09:47:32
19 most of the US tubes were made out of Gomez Palacio 09:47:36
20 that were intended for the US? 09:47:39
21 A Correct. 09:47:42
22 Q Were the tubes made at Gomez Palacio, were 09:47:43

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1 manufacturers of CRT televisions entering the market 16:33:26

2 for the US after 1995? 16:33:30

3 MR. BERMAN: Objection, vague as to 16:33:33

4 "significant." 16:33:34

5 A Not for CRT. 16:33:41

6 BY MS. ZAHID: 16:33:46

7 Q Are there technological differences between 16:33:47

8 CRT televisions manufactured for use in the US versus 16:33:52

9 other geographic regions? 16:33:56

10 A Yes. 16:33:59

11 Q What are they? 16:34:00

12 A Depending on the broadcasting system, like 16:34:01

13 NTSC or PAL that are standards which are used over 16:34:05

14 the world, SECAM, so broadcasting standards, your 16:34:09

15 television set has to be adjusted to those 16:34:15

16 broadcasting standards, so you cannot use a 16:34:20

17 television from the United States to bring to Europe. 16:34:23

18 It wouldn't work. 16:34:26

19 Q What are the costs associated with 16:34:28

20 retooling or adjusting the broadcasting system? 16:34:29

21 A You just can't do it. You have -- in the 16:34:33

22 design of the television set, it is distinguished 16:34:38

EXHIBIT 4

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

---oOo---

IN RE: CATHODE RAY TUBE No. 3:07-CV-05944-SC
(CRT) ANTITRUST LITIGATION

This Document Relates to:
ALL ACTIONS.

HIGHLY CONFIDENTIAL
CONTINUED VIDEOTAPED DEPOSITION OF MICHAEL SON
SAN FRANCISCO, CALIFORNIA
WEDNESDAY, FEBRUARY 6, 2013
VOLUME II

REPORTED BY:
THOMAS J. FRASIK
RPR, CSR No. 6961

1 talking about his CPT marketing time period? 10:36:45

2 BY MR. KAO: 10:36:49

3 Q. Let's start with that, yes. 10:36:50

4 A. Yes. We have one in Malaysia. We had one -- 10:36:52

5 another in China, and we had one in Germany. Around 10:37:00

6 that time, I don't know, we had in Brazil but I don't 10:37:17

7 know exactly when was it. Of course, in Korea also we 10:37:24

8 had. 10:37:32

9 Q. Was there one in Hungary, do you recall? 10:37:32

10 A. Hungary? 10:37:35

11 Q. Hungary. 10:37:40

12 A. I don't know exactly when was it, 2001 or -- I 10:37:40

13 don't know. I don't remember. 10:37:44

14 Q. I'm going to mark as Exhibit 716 a document 10:37:45

15 bearing Bates number SDCRT 0215655. 10:37:51

16 (Deposition Exhibit 716 was marked 10:37:56

17 for identification.) 10:37:56

18 BY MR. KAO: 10:39:14

19 Q. Do you recognize this document, Mr. Son? 10:39:14

20 A. Yes. I think I -- I recognize, yes. 10:39:16

21 Q. Is this something that you helped prepare? 10:39:20

22 A. I think so. 10:39:28

23 Q. And on the first -- the second page, on the 10:39:30

24 top, it says "Thomson Multimedia and Samsung SDI." 10:39:35

25 Do you recall what the purpose of this 10:39:40

1 presentation was? 10:39:42

2 A. Thomson Multimedia used to be one of our global 10:39:47

3 customer and I probably be requested by the company to 10:39:53

4 present our present organization and the market 10:40:01

5 situation, briefing to this customer. 10:40:12

6 Q. If you'd turn to the fifth page, page number 10:40:16

7 five, it says "Global CRT Operation (2000)." Do each of 10:40:24

8 these boxes represent the different factories that 10:40:39

9 Samsung SDI had at that time? 10:40:42

10 A. Yes. 10:40:44

11 Q. So there's Germany, China, Korea, Malaysia, 10:40:46

12 Mexico and Brazil? 10:40:51

13 A. Yes. 10:40:53

14 Q. And if you look at China, Korea, Malaysia and 10:40:53

15 Brazil, it includes two lines, one for CPT and one for 10:40:59

16 CDT. Do you see that? 10:41:03

17 A. Brazil? Brazil, yes. 10:41:05

18 Q. And for Malaysia? 10:41:09

19 A. Calculating each line of each product. 10:41:12

20 Q. So does that mean that at those production 10:41:18

21 plants there were lines that -- production lines that 10:41:22

22 produced CPT and there were production lines that 10:41:25

23 produced CDT? 10:41:27

24 A. Yes. 10:41:30

25 Q. And do you know if those production lines could 10:41:30

1 switch from making CDT to CPT? 10:41:41

2 MR. SCARBOROUGH: Lacks foundation. Calls for 10:41:44

3 speculation. Vague and ambiguous and overbroad. 10:41:46

4 THE WITNESS: Normally we didn't do that, but 10:41:50

5 we can -- we can -- we can switch with considerable 10:41:53

6 amount of money, which means it cannot be produced at 10:42:00

7 the same time. If we convert from A to B, then we may 10:42:09

8 need to put extra money to modify the lines. I don't 10:42:13

9 know much about the details but ... 10:42:20

10 BY MR. KAO: 10:42:22

11 Q. But it was done? 10:42:22

12 MR. SCARBOROUGH: Lacks foundation. Calls for 10:42:23

13 speculation. Mischaracterizes testimony. Vague and 10:42:25

14 ambiguous and overbroad. 10:42:27

15 BY MR. KAO: 10:42:30

16 Q. There were times where it either switched from 10:42:30

17 producing CPT to CDT or from producing CDT to CPT; 10:42:33

18 correct? 10:42:40

19 MR. SCARBOROUGH: Same objections. 10:42:40

20 THE WITNESS: I see the combined line in 10:42:41

21 Malaysia, but I just took at the time the current status 10:42:45

22 and I don't know when was it and how's the situation 10:42:55

23 exactly, just to introduce the current production line. 10:43:00

24 BY MR. KAO: 10:43:06

25 Q. I understand that. I'm just asking, there were 10:43:07

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1	times, you're aware of some instances where a line that	10:43:09
2	was producing CPT was converted to producing CDT;	10:43:11
3	correct?	10:43:18
4	MR. SCARBOROUGH: Lacks foundation. Calls for	10:43:18
5	speculation. Vague and ambiguous.	10:43:21
6	THE WITNESS: I remember, you know, there's a	10:43:23
7	saying like that.	10:43:28
8	BY MR. KAO:	10:43:29
9	Q. Okay. Who had authority to make decisions to	10:43:29
10	do that?	10:43:32
11	MR. SCARBOROUGH: Lacks foundation. Calls for	10:43:33
12	speculation. Vague and ambiguous.	10:43:36
13	THE WITNESS: I don't know exactly the whole	10:43:42
14	process, but the management committee could decide.	10:43:44
15	BY MR. KAO:	10:43:54
16	Q. Is that the same management committee that	10:43:54
17	would decide whether to invest in a new production plant	10:43:56
18	or a different committee?	10:44:00
19	MR. SCARBOROUGH: Lacks foundation. Calls for	10:44:01
20	speculation. Vague and ambiguous.	10:44:03
21	THE WITNESS: I really don't know what happened	10:44:04
22	around that time.	10:44:09
23	BY MR. KAO:	10:44:09
24	Q. So you don't know if it's the same committee or	10:44:09
25	a different committee?	10:44:12

EXHIBIT 5

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

--oOo--

IN RE: CATHODE RAY TUBE (CRT))
ANTITRUST LITIGATION,)
) No. 307-CV-05944-SC

This Document Relates to:)
)
ALL ACTIONS)
)

** HIGHLY CONFIDENTIAL **

CONTINUED VIDEOTAPED DEPOSITION OF JAE IN LEE
San Francisco, California
Thursday, July 25, 2013
Volume II

HIGHLY CONFIDENTIAL

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1 have triple negatives in that response, so I'm having 09:46:02
2 a hard time following. 09:46:05

3 My question to you, sir, is: Are there 09:46:07
4 times when you wrote reports that you made up facts? 09:46:14

5 MR. SCARBOROUGH: Same objections. And 09:46:26
6 asked and answered. 09:46:27

7 MR. FOSTER: And harassing. 09:46:29

8 THE WITNESS: I don't remember for sure. 09:46:32
9 But I don't believe I did that, to the extent I was 09:46:41
10 able to. 09:46:51

11 BY MR. SHAPIRO: 09:46:51

12 Q. Okay. Take a look at the report you 09:46:53
13 prepared, Exhibit 1898. Under the first topic, do 09:46:58
14 you see number 1? 09:47:07

15 A. Yes, I do. 09:47:08

16 Q. And that first topic is "Major Discussion 09:47:12
17 Points"; correct? 09:47:15

18 A. That's what it says on the document. 09:47:27

19 Q. And the first item underneath that topic 09:47:28
20 relates to the non-operation schedule for 17-inch 09:47:42
21 during the month of November; correct? 09:47:48

22 A. That's what it says on the document. 09:48:08

23 Q. And the non-operation schedule was indicated 09:48:09
24 to be five days; correct? 09:48:16

25 MR. SCARBOROUGH: Foundation. Speculation. 09:48:27

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1	Vague and ambiguous.	09:48:28
2	THE WITNESS: That's what it says on the	09:48:28
3	document that I am looking at now.	09:48:35
4	BY MR. SHAPIRO:	09:48:37
5	Q. Okay. And it's a document you wrote, sir;	09:48:38
6	correct?	09:48:46
7	MR. FOSTER: Foundation.	09:48:46
8	THE WITNESS: Although I cannot be certain,	09:48:47
9	because my name appears as the preparer, I believe I	09:48:56
10	was the preparer.	09:48:59
11	BY MR. SHAPIRO:	09:49:00
12	Q. Okay. And then below the non-operation	09:49:00
13	schedule item, the next item relates to the price of	09:49:12
14	17-inch CDT; correct?	09:49:18
15	MR. SCARBOROUGH: Vague and ambiguous.	09:49:30
16	MR. FOSTER: Foundation.	09:49:32
17	THE WITNESS: Yes, that's what it says on	09:49:37
18	the document.	09:49:39
19	BY MR. SHAPIRO:	09:49:40
20	Q. Let me ask you about the title of the	09:49:41
21	heading number 1. Isn't the title of number 1 "Major	09:49:43
22	Agreement Points"?	09:49:52
23	MR. SCARBOROUGH: Argumentative.	09:50:02
24	Foundation. And inconsistent with the translation	09:50:03
25	prepared by plaintiffs.	09:50:05

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		Page 213
1	MR. FOSTER: Form.	09:50:09
2	THE WITNESS: Based on the document that I	09:50:15
3	have, it says "Major Agreement Points."	09:50:20
4	MR. SHAPIRO: The next exhibit is 1899 and	09:51:04
5	1899E.	09:51:07
6	(DPP Deposition Exhibit 1899 was marked for	09:51:07
7	identification.)	09:51:22
8	(DPP Deposition Exhibit 1899E was marked for	09:51:22
9	identification.)	09:51:22
10	MR. SHAPIRO: While we're waiting, Exhibit	09:52:53
11	1899 bears the production number SDCRT-0086722	09:52:55
12	through 732.	09:53:03
13	MR. FOSTER: Counsel, did you say 722 to	09:53:27
14	732?	09:53:30
15	MR. SHAPIRO: Yes.	09:53:31
16	MR. FOSTER: Thank you.	09:53:32
17	While the witness is reviewing the document,	09:57:52
18	I just want to lodge an objection to this exhibit.	09:57:53
19	It doesn't look like it's a complete exhibit. It	09:57:56
20	doesn't appear to me that there's any rhyme or reason	09:57:59
21	for these pages being grouped in the way they have as	09:58:02
22	ten pages. I just want to state that objection.	09:58:05
23	THE WITNESS: Yes, I'm done.	09:58:45
24	BY MR. SHAPIRO:	09:58:45
25	Q. Exhibit 1899. Let's focus on the pages 722	09:58:45

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Page 214

1	through 725. All right? Do you have those in front	09:58:59
2	of you?	09:59:14
3	A. Yes.	09:59:15
4	Q. Those pages of Exhibit 1899 are notes that	09:59:15
5	you took; correct?	09:59:22
6	MR. FOSTER: Foundation.	09:59:32
7	THE WITNESS: Although I wouldn't be able to	09:59:33
8	tell you for certain, it appears to me the note that	09:59:42
9	I have written.	09:59:46
10	BY MR. SHAPIRO:	09:59:48
11	Q. And you would have written those notes as	09:59:49
12	part of your duties and responsibilities at Samsung	09:59:52
13	SDI?	10:00:06
14	MR. FOSTER: Foundation. Vague and	10:00:06
15	ambiguous.	10:00:14
16	THE WITNESS: I have been doing this as one	10:00:14
17	of my many duties and responsibilities.	10:00:16
18	BY MR. SHAPIRO:	10:00:18
19	Q. All right. And these appear to be true and	10:00:19
20	accurate copies of your notes?	10:00:25
21	MR. FOSTER: Same objections. Assumes	10:00:35
22	facts.	10:00:37
23	THE WITNESS: Because that's what I tried to	10:00:37
24	do, it appears to be so.	10:00:45
25	BY MR. SHAPIRO:	10:00:47

EXHIBIT 6

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

Case No. 3:07-cv-05944 SC

MDL No. 1917

-----x

IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION

-----x

This Document Relates to:

ALL ACTIONS

-----x

Taipei 101 Tower
Xinyi Road
Taipei City, 11049
Taiwan

February 21, 2013
9:41 a.m.

Volume III of III

CONTINUED DEPOSITION of CHIH CHUN-LIU, held at the
aforementioned time and place, before Audrey
Shirley, Qualified Realtime Reporter, MBIVR

1 THE VIDEOGRAPHER: Okay, going off the 15:03:59
2 record. The time is 3:03 p.m. 15:04:01
3 (A brief recess was taken at 3:03 p.m.) 15:20:02
4 THE VIDEOGRAPHER: Back on the record, the 15:20:02
5 time is 3:20 p.m. 15:20:51
6 EXAMINATION 15:20:54
7 BY MR. O'CONNOR: 15:20:54
8 Q. Good afternoon, Mr. Liu. 15:20:55
9 A. Good afternoon. 15:20:57
10 Q. My name is Eric O'Connor, I represent 15:20:58
11 the SDI Defendants. I just have some general 15:21:00
12 questions, probably about two topics for 15:21:04
13 cross-examination. 15:21:09
14 The first topic is about CPTs and CDTs. If 15:21:17
15 a customer wanted to buy a tube for a monitor, 15:21:21
16 you cannot sell them a CPT, correct? 15:21:24
17 A. Correct. 15:21:27
18 MR. SAVERI: Object to form. 15:21:28
19 BY MR. O'CONNOR: 15:21:30
20 Q. And if a customer wanted to buy a tube 15:21:30
21 for a television, you cannot sell them a CDT, 15:21:32
22 correct? 15:21:36
23 MR. SAVERI: Objection. 15:21:36
24 THE WITNESS: Correct. 15:21:38
25 /// 15:21:38

1 BY MR. O'CONNOR: 15:21:38

2 Q. Also in general, Chunghwa had one set 15:21:39

3 of salesperson for the sale of CPTs and another 15:21:40

4 set of salesperson responsible for the sale of 15:21:45

5 CDTs; is that right. 15:21:47

6 MR. SAVERI: Objection, leading. 15:21:49

7 THE WITNESS: Correct. 15:21:51

8 BY MR. O'CONNOR: 15:21:52

9 Q. And also, in general, from 1995 to 15:21:52

10 2007, customers of Chunghwa's CPTs were distinct 15:21:58

11 from customers of Chunghwa's CDTs, correct? 15:22:02

12 A. Correct, but I don't know the year the 15:22:30

13 -- the situation in the year 2007. 15:22:35

14 Q. And you believe that CPTs and CDTs were 15:22:39

15 in different markets because CPTs and CDTs were 15:22:43

16 used in different products and had different 15:22:47

17 customers; is that right. 15:22:50

18 MR. IOVIENO: Object to the form. 15:22:52

19 THE WITNESS: Correct. 15:22:54

20 BY MR. O'CONNOR: 15:22:55

21 Q. Okay, I'm going to move on to a second 15:22:55

22 topic. During the time that you attended 15:22:57

23 meetings with competitors, the discussions 15:23:02

24 concerning CPTs generally focused on CPTs ranging 15:23:06

25 from 14 to 21 inches; is that correct? 15:23:11

1 A. Correct. 15:23:15

2 Q. And these discussions generally focused 15:23:18

3 on 14 to 21-inch CPTs because attendees of the 15:23:22

4 group meetings generally all produced CRTs of 15:23:26

5 these size -- wait, no, strike that. 15:23:29

6 And these discussions generally focused on 15:23:32

7 14 to 20-inch CPTs because attendees of the group 15:23:39

8 meetings generally all produced CPTs of these 15:23:45

9 sizes, correct? 15:23:47

10 A. Yes. And also the market demand, major 15:23:49

11 demand on this. 15:23:53

12 Q. And during the time that you attended 15:23:55

13 the meetings with competitors, the discussions 15:23:57

14 concerning CDTs generally focused on 15, 17 and 15:24:01

15 19-inch CDTs; is that correct. 15:24:07

16 A. Correct. At earlier stages also 15:24:09

17 14-inch. 15:24:12

18 Q. And these discussions generally focused 15:24:14

19 on either the 14, 15, 17 or 19-inch CDTs because 15:24:17

20 attendees of the group meetings generally all 15:24:22

21 produced CDTs of these sizes, correct? 15:24:25

22 A. Correct. 15:24:28

23 Q. And during the time that you attended 15:24:28

24 meetings with competitors, Chunghwa generally did 15:24:31

25 not exchange supply volume or sales forecast 15:24:36

EXHIBIT 7

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION

THIS DOCUMENT RELATES TO:
DIRECT PURCHASER CLASS ACTION

Master File No. CV-07-5944-SC
MDL No. 1917

EXPERT REPORT OF ROBERT D. WILLIG

09/10/13

**DOCUMENT SUBMITTED PARTIALLY UNDER SEAL
AND CHAMBERS COPY**

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I. Introduction

A. Qualifications

1. I am a Professor of Economics and Public Affairs at the Woodrow Wilson School and the Economics Department of Princeton University, USA. I am also a Senior Consultant at Compass Lexecon, an economics consulting firm based in the U.S. Previously, I was a Supervisor in the Economics Research Department of Bell Laboratories. My teaching and research have specialized in the fields of industrial organization, government-business relations, and welfare theory.

2. I have extensive experience analyzing economic issues arising under the law. From 1989 to 1991, I served as Chief Economist in the Antitrust Division of the U.S. Department of Justice, where I led the development of the 1992 *Horizontal Merger Guidelines*. I met with outsiders, weighed evidence, and participated in decisions on when to use enforcement power. Core to my work were issues pertaining to alleged conspiracies and market competition. I am the author of *Welfare Analysis of Policies Affecting Prices and Products* and *Contestable Markets and the Theory of Industry Structure* (with William Baumol and John Panzar) as well as numerous articles. I have served on the editorial boards of *The American Economic Review*, *The Journal of Industrial Economics*, and the *MIT Press Series on Regulation*. Also, I have served as a consultant and advisor to the Federal Trade Commission, the Department of Justice, the OECD, the Inter-American Development Bank, the World Bank, and the governments of many nations.

3. I was invited by the Pennsylvania Bar Institute, Antitrust Law Committee CLE and the PLI Annual Antitrust Law Institute in 2007 to give talks on class certification matters, and I have prepared expert reports on class certification matters.

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4. I have been retained by the defendants in CRT litigation related to Indirect Purchaser Plaintiffs' claims of CRT price fixing, and I have filed two reports in that litigation.¹

5. My curriculum vitae, which includes a list of my publications, is at Attachment 1. A list of matters in which I have given sworn testimony as an expert during the past four years, at trial or in deposition, is at Attachment 2.

B. Assignment

6. The allegations in this case involve a conspiracy to elevate the prices of cathode ray tubes ("CRTs"). Plaintiffs allege that Defendants² and their co-conspirators successfully colluded to elevate the prices of CRTs sold in the U.S. between March 1995 and November 2007 (the class period). Plaintiffs have asked the Court to certify a class of direct purchasers ("the DPP class") consisting of "all persons and entities who directly purchased a Cathode Ray Tube Product, ..., in the United States from any Defendant or any subsidiary or affiliate thereof [during the class period]."³

7. I understand that it is incumbent on Plaintiffs to show that injury and damages to the DPP class as a result of the actions of the alleged cartel of CRT manufacturers during the class period can be established using common evidence and common methods, i.e., that the conduct at issue had a "common impact" on members of the proposed class of direct purchasers.

¹ Expert Report of Robert D. Willig, December 17, 2012; and Rebuttal Declaration of Robert D. Willig, March 25, 2013.

² The following firms are listed as Defendants in the relevant complaint: Chunghwa Entities; Daewoo Entities; Hitachi Entities; Irico Entities; LG Electronics Entities; Panasonic Entities; Philips Entities; LG Philips Display (listed under Philips Entities); Samsung Electronics entities; Samsung SDI entities; Thai-CRT; Toshiba Entities; Samtel; Tatung Company of America, Inc. (Direct Purchaser Plaintiffs' Consolidated Amended Complaint, March 16, 2009, pp. 5-18.) However, I understand that Plaintiffs have settled or dismissed their claims against all but Hitachi and Samsung SDI.

³ Direct Purchaser Plaintiffs' Consolidated Amended Complaint, March 16, 2009, p.1.

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8. I have been retained by Defendants Hitachi and Samsung SDI (“SDI”)⁴ to:
- a) Address whether Plaintiffs are likely to be able to demonstrate, at a single trial, through common proof on a class-wide basis, that all or virtually all of the members of the proposed class suffered economic injury from the alleged conspiracy;
 - b) Review the expert report filed by Dr. Jeffrey Leitzinger, the economic expert for the DPP class, and opine on the analyses and views presented therein.
9. As a starting point for my analysis, I assume that the DPP class is correct in its allegation that the group of defendant CRT manufacturers and their alleged co-conspirators attempted to elevate prices of some CRTs to direct purchasers during the relevant period. However, I do not assume that the alleged cartel was effective in its attempts to elevate prices to any or all direct purchasers of CRTs during the nearly thirteen-year class period. Instead, I investigate whether, as an empirical matter, the fact and extent of impact on all direct purchasers can be assessed using common evidence and methods.
10. A list of the information and data I relied upon in forming the opinions expressed herein is attached at Attachment 3. My opinions expressed herein are based on those materials and data, my previous work related to the indirect purchaser class CRT litigation, my knowledge and experience in industrial organization economics and antitrust economics, my experience in antitrust enforcement at the Department of Justice, and my experience in advising and consulting with clients on competition matters over the past 30 years, both here and abroad.
11. The opinions expressed in this report reflect the information and facts I believe to be true at the time this report is filed. I reserve the right to revise my opinions if additional information and facts supplied in discovery or through subsequent expert reports and depositions make such revisions appropriate.

⁴ I was also retained by SEA and SEC until May 22, 2013, the date the DPP class voluntarily dismissed those companies from their case.

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12. Compass Lexecon is being compensated for my work at my usual hourly rate of \$1,350 which is the same rate for research and testimony. This compensation is in no way connected to the outcome of this litigation.

II. Summary of Conclusions

13. The proposed DPP class is extremely broad. It encompasses CRTs as well as CRT finished products (i.e., TVs and monitors containing CRTs), CRTs used in TVs and in monitors, and it includes CRTs sold in all geographic regions since Plaintiffs allege that there was a global conspiracy.⁵

14. Given the complexities of the CRT marketplace during the class period, my overall conclusion is that common methods and evidence cannot be used validly to assess the impact of the alleged cartel on all or almost all members of the proposed DPP class. Instead, an individualized examination would be required to determine whether any particular direct purchaser actually paid a cartel overcharge when purchasing a given CRT or CRT finished product. This opinion is based on the following findings:

- a) CRT price dynamics were complex and heterogeneous during the cartel period because of differentiated market forces in the CRT marketplace. For example, CDTs and CPTs were distinct products subject to different market forces. CDTs were affected earlier and more extensively by competition from LCD and plasma technologies than CPTs, and this differentiated impact is evident in the earlier and more rapid decline of CDT prices than CPT prices.
- b) Despite the evidence of heterogeneity in the CRT marketplace, Dr. Leitzinger's conclusions are based on analyses that pool together all or most CRTs. For example, Dr. Leitzinger provides only a single average overcharge estimate for all CRTs. Such aggregation is inappropriate given the heterogeneous market forces acting on the various CRT segments, in particular, on CPTs and CDTs. When Dr. Leitzinger's overcharge model is implemented separately for CPTs and CDTs, it estimates that the aggregate overcharge for all CDTs sold during the class period is not statistically distinguishable from zero and the same is true for certain categories of CPTs.

⁵ I understand that although plaintiffs allege a global conspiracy, their claims are confined to the U.S. (Direct Purchaser Plaintiffs' Consolidated Amended Complaint, March 16, 2009, ¶¶ 214-215.)

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Similarly, when pass-through rates are estimated separately for TVs and monitors, TVs are found to have a pass-through rate that is not statistically distinguishable from zero.

- c) Dr. Leitzinger's conclusions rest on analyses that make no distinction between CPT sales in North America and sales elsewhere. For example, Dr. Leitzinger's overcharge analysis pools together CPT sales in North America with CPT sales in the rest of the world. However, most CRT TVs sold in the U.S. contained CPTs manufactured in North America. Moreover, prices of CPTs sold in North America exhibited different price dynamics from prices of CPTs sold in the rest of the world, reflecting different CRT market conditions across regions. When Dr. Leitzinger's overcharge model is implemented separately for North American CPT sales, it estimates that the aggregate overcharge for CPTs sold in North America during the class period was not statistically distinguishable from zero. For CDTs sold in North America, overcharges were negative and statistically significant.
- d) The alleged cartel was unlikely to have been successful in elevating CRT prices class-wide, as evidenced by the fact that the target prices that Dr. Leitzinger contends were set by the alleged cartel were poor predictors of actual CRT prices.

15. I briefly summarize my more detailed conclusions below, and provide my analyses in the body of this report.

A. There Is No Evidence of Sustained and Effective Collusion Across All CRTs Purchased by the Proposed Class.

16. Dr. Leitzinger's opinion (contrary to mine) that class-wide impact can be established using common methods and evidence rests on three claims: (a) the alleged cartel set "target prices" for CRTs that accounted for a majority of CRT sales, and the Defendants and their alleged co-conspirators were successful in elevating CRT sales prices based on those target prices; (b) a so-called "price structure" existed for CRTs; (c) pass-through rates were uniformly positive across all CRT finished products, *i.e.*, there was universal or near-universal pass-through of allegedly elevated CRT prices by manufacturers of TVs and monitors. If either (a) or (b) is incorrect, then his entire methodology for establishing common impact on direct purchasers of CRTs collapses. For purchasers of CRT finished products, all three of these claims must be correct. In fact, all three claims are fundamentally incorrect, and the evidence cited by Dr. Leitzinger does not support his conclusions, thereby rendering his conclusions unreliable, as I explain below.

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Record Evidence and Economic Logic Indicate that the Alleged Cartel Was Unlikely to Have Elevated Prices of All or Most CRTs (If Any).

17. Several features of the CRT marketplace (such as opaque pricing) imply that the alleged cartel may not have been consistently effective in increasing CRT prices class-wide (if at all). Indeed, the documents cited by Dr. Leitzinger as evidence that the alleged cartel members met in order to set alleged target prices strongly indicate that the alleged cartel was not consistently effective in elevating prices. Many of these documents indicate that participants found CRT pricing by other suppliers to be opaque and that alleged cartel members often engaged in pricing conduct that deviated from what Dr. Leitzinger refers to as “target prices” set by the putative cartel.

18. The documentary evidence of breakdowns in the alleged cartel is supported by data on actual CRT prices. In particular, the actual prices that the alleged cartel members charged for CPTs were typically below the alleged target prices. Specifically, 76% of CDT unit sales and 56% of CPT unit sales in CRT categories for which Dr. Leitzinger identified an alleged applicable target price during the class period were priced below that target price. Because Dr. Leitzinger has not presented any but-for prices for particular CRTs, he has provided no basis that would allow a fact-finder to ascertain which, if any, of the substantial majority of CRTs priced below the alleged applicable target prices were priced above the but-for price.

19. In order to further examine whether the evidence is consistent with the cartel having a class-wide impact, I have also employed an econometric model to test whether changes in actual prices tended to track changes in target prices. If the alleged target prices had a class-wide impact on actual prices, then quarter-to-quarter changes in the alleged target prices identified by Dr. Leitzinger should reliably predict changes in the actual prices for the corresponding CRT models. Instead, I find that the variation in quarter-to-quarter changes in the alleged target prices explain only 3.3% of the variation in actual prices for the corresponding CRT models. The fact that changes in the alleged target prices are such extremely poor predictors of changes in actual prices demonstrates that the alleged cartel was far from consistently effective (if at all).

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20. Part of the lack of consistent adherence to target prices identified by Dr. Leitzinger was likely due to the fact that during the class period some alleged cartel members were vertically integrated. The vertically integrated manufacturers typically sold CRTs to affiliated and non-affiliated downstream finished-product manufacturers. Because the transfer price paid by an affiliated downstream finished-product manufacturer to an upstream CRT manufacturer was likely to be opaque to other CRT manufacturers, integrated firms may have found it easier to deviate from the cartel agreement without being detected. Data on CRT sales prices bear this out since they show effectively zero relationship between changes in the alleged target prices and changes in the actual prices of CRTs sold to affiliated downstream finished-product manufacturers.

Dr. Leitzinger's Analyses of Actual and Target Price Data Do Not Establish Class-wide Impact.

21. Dr. Leitzinger reviews the same data but reaches a different conclusion. In particular, he contends that the cartel agreed to set “target” prices that “extended directly to CRTs representing the vast majority of total sales.”⁶ He also presents a regression analysis of actual prices on target prices that he purports shows that these target prices “had a demonstrable effect on actual prices paid.”⁷ Finally, he presents a hedonic regression analysis that purports to show that the alleged cartel had a class-wide impact on CRT prices. However, Dr. Leitzinger’s analyses do not establish class-wide impact.

22. Dr. Leitzinger states, “[T]he share of shipments represented by the targeted CRTs was 90 percent for CPTs and 99 percent for CDTs ... That result, by itself, would go a long way towards establishing the existence of broad impact on the part of the alleged conspiracy.”⁸ However, Dr. Leitzinger’s conclusion does not follow from the figures he

⁶ Corrected Expert Report of Jeffrey J. Leitzinger, Ph.D., August 1, 2013 (“Leitzinger Report”), ¶ 6. Dr. Leitzinger also filed an expert report in this litigation on May 14, 2013 (Expert Report of Jeffrey J. Leitzinger, Ph.D., May 14, 2013). All references herein to his report refer to the August 1, 2013 Corrected Expert Report.

⁷ Leitzinger Report, ¶ 6 and § VI A.

⁸ Leitzinger Report, ¶ 40.

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reports because the figures do not show that target prices existed for 90-plus percent of CRT sales. Rather, Dr. Leitzinger obtained such high shares by *counting every CRT sold during the entire class period* for a particular application (CDT or CPT) and size (“category”) if he identified even one alleged target price for one manufacturer of one particular variety of that category of CRT in one quarter during the class period. In fact, Dr. Leitzinger identified allegedly applicable target prices for at most only 6% of CDT shipments and 24% of CPT shipments during the class period.

23. Dr. Leitzinger’s actual-price target-price regression analysis at most demonstrates the existence of a positive relationship between actual prices and the alleged target prices, which does not establish that the alleged target prices had an impact on actual CRT prices. For example, to the extent that the control variables that Dr. Leitzinger included in his regression do not capture all of the market forces that affected both actual and target prices, one would expect to observe a positive relationship between actual and target prices regardless of the extent to which target prices influence actual prices.

24. Dr. Leitzinger’s actual-price target-price regression analysis also does not demonstrate that there was a class-wide relationship between actual and target prices. As an initial matter, the regression is essentially silent regarding the relationship between actual prices and target prices for CDTs, as only 3 of the 3,151 observations in his regression involve CDT sales. These three observations represent only 0.03% of all CDTs sold during the class period. Additionally, Dr. Leitzinger’s actual-price target-price regression analysis estimates only the *average* relationship between actual and target prices. Thus, Dr. Leitzinger’s actual-price target-price regression analysis provides no guidance as to whether the relationship (much less impact) was uniform or even positive across the CRTs ultimately purchased by the proposed class. As discussed above, the fact that *changes* in the alleged target prices were poor predictors of *changes* in actual prices demonstrates that the alleged cartel was far from consistently effective (if at all).

25. In order to further confirm these results, I examined whether the alleged target prices, expressed in the same functional form as in Dr. Leitzinger’s analysis, are reliable predictors of actual price *levels*. A statistical analysis of actual and target prices reveals

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that a prediction of the sales price of a given panel in a typical quarter, based on the alleged applicable target price that quarter, would be wrong by a material amount, which confirms my finding that target CRT prices are poor predictors of actual CRT prices.

26. Moreover, Dr. Leitzinger's actual-price target-price regression analysis suffers from methodological flaws that cause him to substantially inflate his estimate of the *average* relationship between actual prices and the alleged applicable target prices identified by Dr. Leitzinger (which, again, does not apply to CDTs and does not demonstrate impact, even on average).

27. Dr. Leitzinger attempts to show class-wide impact through a series of hedonic regressions. These regressions attempt to predict CRT prices based on several product characteristics, the transaction quantities, and brand value. Dr. Leitzinger asserts that the high R-squared statistics in his hedonic regressions imply that product characteristics and other factors included in those regressions explain a substantial portion of the variation in CRT prices and therefore "selective conspiracy impacts do not appear to be the reason for the observed [CRT] price variability."⁹ However, the R-squared statistics in Dr. Leitzinger's hedonic regression analysis are irrelevant for the purpose of establishing that any impact was class-wide – even if the alleged cartel failed to have any impact at all on large segments of CRTs, Dr. Leitzinger's hedonic regression could produce high R-squared statistics, as Dr. Leitzinger acknowledged in his recent deposition testimony.¹⁰

B. There Is No Evidence of a Price Structure.

Actual Pricing Data Are Wholly Inconsistent with the Existence of a Structure in Prices of CRTs and CRT Finished Products.

28. Dr. Leitzinger's conclusion of common impact rests heavily on his claim that CRT prices exhibited a "structure" such that prices of various categories of CRTs were linked economically and moved closely together.

⁹ Leitzinger Report, ¶ 38.

¹⁰ Deposition of Dr. Jeffrey Leitzinger, August 22, 2013 ("Leitzinger Deposition"), pp. 200-201.

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29. However, CRTs were widely differentiated along many dimensions. For example, I understand that CPTs were used exclusively in televisions, whereas CDTs were used predominantly in desktop computer monitors and were not used in televisions. From the standpoint of manufacturers of monitors and TVs, CPTs and CDTs were not substitutes. Other factors such as customization of CRTs limited the extent of demand and supply substitution of CRTs. Moreover, some CRTs were sold by manufacturers such as Toshiba that were vertically integrated for at least part of the class period, while other CRTs were supplied by CRT manufacturers such as Chunghwa that were not integrated. This heterogeneity in the extent of vertical integration of CRT suppliers created divergent incentives when setting CRT prices.

30. The heterogeneity in CRTs is reflected in the considerable heterogeneity in CRT prices and in CRT price movements. An examination of CRT price data shows that prices of CRTs did not move together. Instead, prices of CRTs moved disparately, with some prices increasing, others decreasing, and the rest remaining relatively constant. The same is also true of the prices of CRT finished products.

31. The heterogeneous price dynamics of CRTs and CRT finished products likely were the result of differentiated features of these products and, more importantly, the result of substantially different market forces that influenced the prices of different CRT product segments at various points during the class period. For example, from 2000 onward, fierce competition from LCD and plasma display technologies rapidly shrank the CRT share of the display market. This development affected CDTs earlier and more than CPTs. Moreover, competition from alternative technologies affected large CPTs more than small and medium CPTs.

32. In addition to the differentiated price dynamics across product categories, there is substantial evidence of diverse price dynamics across geographic regions. This is another source of differentiation in CRT price dynamics, particularly for CPTs. This is particularly relevant here because although the U.S.-based Plaintiffs allege a global CRT cartel, a substantial volume of CPTs used in TVs sold in the U.S. were manufactured or sold in North America. Market conditions for CPTs in North America were different from those in the rest of the world. Given these facts, it would not be surprising if CPT

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prices in the U.S. and North America were different from CPT prices in the rest of the world. Indeed, prices of CPTs sold in North America had substantially different patterns of changes than prices of CPTs sold in the rest of the world.

Dr. Leitzinger's Price Correlation Analysis Does Not Support the Existence of a Price Structure or Common Impact.

33. Dr. Leitzinger contends that the alleged cartel broadly elevated CRT prices in part because the prices of non-targeted CRTs were linked to the prices of targeted CRTs by a “price structure” wherein these linked prices generally tracked one another closely. To support this claim, Dr. Leitzinger conducts a “correlation analysis” of CRT prices that he contends shows that the average sales prices of *non-targeted* categories of CRTs moved closely with the average sales prices of *targeted* categories of CRTs.

34. However, correlations of the type estimated by Dr. Leitzinger are most likely spurious, produced by basic flaws long recognized by economists. In fact, even if the so-called targeted and non-targeted CRTs were entirely unrelated by any demand or supply substitution, Dr. Leitzinger’s analysis would likely produce a very high estimate of price correlation simply because prices of most CRTs, for example, were declining due to common market forces such as buyers switching to LCDs and declining manufacturing costs, even if the extent to which these market forces affected CRTs’ prices differed across various categories of CRTs.

35. Moreover, Dr. Leitzinger’s price correlation analysis masks considerable heterogeneity in CRT price dynamics because the analysis is focused only on *average* CRT prices, aggregated across many different CRTs within broad categories. An analysis using disaggregated CRT price data reveals that the alleged target prices identified by Dr. Leitzinger are very poor predictors of actual sales prices of non-targeted CRTs. This result is wholly inconsistent with Dr. Leitzinger’s contention that the alleged target prices broadly impacted sales prices of non-targeted CRTs.

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C. Pass-through of CRT Costs to Finished Product Prices Was Complex and Differentiated.

36. The proposed DPP class includes purchasers of CRTs as well as purchasers of CRT finished products. Even assuming *arguendo* that the alleged CRT cartel impacted prices paid by direct purchasers of most or all CRTs during the class period, it likely would have broadly impacted prices paid by class members for all or nearly all *finished products* only if the increase in CRT prices flowed through to finished products purchased by class members in a uniformly positive manner.

37. As explained above, certain categories of CRT finished products faced stiffer and earlier competition from LCDs and plasma technologies. As such, manufacturers may not have had the ability to pass-through increases in CRT prices in some categories of finished products. More generally, economic theory shows that not all finished product prices would necessarily have been elevated and some prices may even have fallen if the alleged cartel was able to elevate prices of all CRTs. Consistent with this view, the data on record show that finished product manufacturers did not always pass-through even widespread changes in CRT costs, which indicates that the link between finished product prices and CRT costs was complex and non-uniform.

38. Ignoring the variation in pass-through rates apparent in the available data, Dr. Leitzinger provides an estimate of the average pass-through rate of CRT costs to finished product prices – averaged across all finished products, manufacturers, and time periods. However, Dr. Leitzinger's pass-through analysis is fundamentally flawed because his estimate of the average pass-through rate relies in large part on comparing the prices and costs of different CRT finished products. Thus, Dr. Leitzinger's analysis would compare, for example, small TVs with few premium features and large TVs with more premium features and would attribute the difference in their prices to the fact that the larger, full-featured TVs had higher-cost CRTs, ignoring the fact that the higher prices of the larger TVs likely were due in part to the greater willingness of customers to pay for such features. Correcting for this error reveals that the average pass-through rates for TVs – when considered separately from monitors – are not statistically distinguishable from zero.

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D. Dr. Leitzinger's CRT Overcharge Analysis Shows No Impact of the Alleged Cartel on the Prices of Several Major CRT Categories.

39. In his report, Dr. Leitzinger proposes comparing CRT prices during the alleged cartel period with prices before and after the cartel period in order to estimate putative overcharges for CRTs. At his deposition, Dr. Leitzinger testified that he relies on his analysis of alleged CRT overcharges to opine that the alleged cartel had class-wide impact.¹¹ As such, Dr. Leitzinger's CRT overcharge analysis is relevant for assessing impact as well as damages. However, Dr. Leitzinger's regression model of CRT overcharges is unreliable because it fails to capture material changes in market conditions during the relevant periods. Moreover, it pools together widely disparate types of CRTs. Dr. Leitzinger makes no effort to determine if his estimated average overcharge is reasonably representative of overcharges paid by all or most DPP class members for disparate categories of CRTs, nor does he attempt to estimate overcharges for CRTs sold in North America.

40. In fact, Dr. Leitzinger's own data and overcharge analysis demonstrate that average prices of many CRTs during the conspiracy periods were not higher than their average prices during the benchmark period, i.e., there likely were no overcharges for many CRTs. For example, when I employ Dr. Leitzinger's data and overcharge model to estimate overcharges for CPTs and CDTs separately instead of pooling them together as he does, I find that his overcharge regression model implies that average CDT prices were not elevated during the cartel period relative to the benchmark non-cartel period. Even among CPTs, not all segments had overcharges associated with them.

41. Furthermore, when Dr. Leitzinger's overcharge model is applied only to CRTs sold in North America, it estimates *negative* overcharges for CDTs, zero overcharges for CPTs and zero overcharges for all CRTs (in the aggregate).

42. In sum, Dr. Leitzinger is mistaken in his claim that his damages model proves the feasibility of a formulaic approach to reliably estimating damages. If anything, his data

¹¹ Leitzinger Deposition, p. 190.

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and his analysis demonstrate the need for a disaggregated analysis of damages and impact given the non-uniform impact (if any) of the alleged cartel. This is not surprising given the extremely broad class claimed by plaintiffs, a class that includes many and heterogeneous products and regions.

III. No Evidence of Uniform, Effective and Sustained Collusion

A. Record Evidence and Economic Logic Indicate that the Alleged Cartel Was Unlikely to Have Broadly Elevated Prices of CRTs (If at All).

Economic Theory Suggests that, Contrary to Dr. Leitzinger's View, the CRT Cartel Was Potentially Ineffective at Raising Prices of All or Nearly All CRTs across the Proposed Class.

43. Dr. Leitzinger contends that the alleged conspirators successfully elevated the prices for *all* or most CRTs sold during the nearly thirteen-year proposed class period in part by agreeing to a set of “target prices.”¹²

44. However, economic theory has established that cartels in industries with certain features and conduct are less likely to be effective than cartels in industries without those features. Such characteristics include opaque pricing (i.e., prices are not entirely transparent to suppliers)¹³ and differing degrees of vertical integration across alleged cartel members.¹⁴ These features are found in the CRT industry during the relevant period.

45. Transparency of pricing matters for cartel stability because a cartel cannot succeed if cartel members can readily gain sales by cheating on the agreement and undercutting cartel prices without inviting retaliation. Cheating is more likely to be detected and

¹² Leitzinger Report, §6.

¹³ See, e.g., Church, J., & Ware, R. (2000). *Industrial Organization: A Strategic Approach*. McGraw-Hill. p. 340.

¹⁴ See, e.g., Carlton, D.W., & Perloff, J. M. (1999). *Modern Industrial Organization, 3rd edition*. Addison-Wesley. p.138.

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deterred if each member of the alleged cartel were able to observe prices other cartel members charged their customers. If so, members would be able to detect whether cartel participants are, in fact, complying with the agreed-upon target prices. Conversely, if prices are opaque, then cartel members are unlikely to be able to detect cheating in a timely manner. Opaque pricing is especially likely to destabilize a cartel if the market experiences frequent changes in demand, cost and technology because it would be difficult for cartel members to separate price changes and shifts in market shares due to such changes in market conditions from price changes and shifts in market shares due to cheating.¹⁵

46. As discussed in Section IV, CRTs are extremely heterogeneous products, and CRT prices depend materially on a variety of CRT features. Prices were typically negotiated with individual customers, and it was not the industry practice to generate public list prices.¹⁶ Moreover, as explained below in Section III.B of this report, the price differences between larger and smaller CPTs differed across manufacturers and over time. More generally, pricing complexity and diversity have been cited in testimony by executives from CRT manufacturers as reasons why manufacturers were unable to reliably assess prices of other CRT manufacturers.¹⁷

47. Opaque and complex pricing are all the more likely to have eroded the effectiveness of the alleged cartel because there were major changes in the industry during the class

¹⁵ Carlton, D.W., & Perloff, J. M. (1999). *Modern Industrial Organization*, 3rd edition. Addison-Wesley. p. 137; Motta, M. (2004). *Competition Policy: Theory and Practice*. Cambridge University Press, p. 150; Scherer, F.M. (1980). *Industrial Market Structure and Economic Performance*, 2nd edition. Houghton Mifflin. pp. 205-206; Church, J., & Ware, R. (2000). *Industrial Organization: A Strategic Approach*. McGraw-Hill. p. 341.

¹⁶ Deposition of Jay Heinecke, July 31, 2012 (“Heinecke (TAEC) Deposition”), pp. 165-166. See also, Deposition of Yasuhiko Kawashima, July 18, 2012 (“Kawashima (HDL) Deposition”), p. 36; Deposition of L. Thomas Heiser, July 3, 2012 (“Heiser (HEDUS) Deposition”), p. 101.

¹⁷ See, for example, Deposition of Jaein Lee, June 6-7, 2012, (“Lee (SDI) Deposition”), p. 108. See also Deposition of Yoshiaki Uchiyama (TACP), August 1, 2012 (“Uchiyama (TACP) Deposition”), pp. 51-52.

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period such as the growing competitive presence of LCD and plasma technologies.¹⁸ Shifts in CRT market shares and price changes due to technology disruptions would be difficult to separate from share shifts due to cheating when prices are hard to know.

48. In addition to complex and opaque prices, the differing degrees of vertical integration by CRT suppliers also make it unlikely that the alleged cartel was consistently effective in elevating prices. During the class period, several large CRT manufacturers were vertically integrated into manufacturing finished CRT products (i.e., TVs and monitors) while others were not. Specifically, Hitachi was vertically integrated throughout the class period, while Chunghwa, LPD, and SDI were not. Panasonic and Toshiba were each vertically integrated through 2003, at which point they formed a new entity called MTPD that acquired all of Panasonic's and Toshiba's former CRT manufacturing capacity,¹⁹ with Panasonic retaining a controlling stake in MTPD.²⁰ Philips and LG were each vertically integrated through July 2001, at which point they each divested their entire CRT manufacturing businesses to LPD – a newly formed independent joint venture.

49. Economists have identified such asymmetries in vertical integration as a contributor to cartel instability.²¹ The price paid by a finished product manufacturer to an affiliated

¹⁸ The shift from analog TV to digital TV in the U.S. was another notable change in the CRT marketplace during the class period. In particular, widescreen and high definition digital CPTs differed from analog CPTs and from CPTs used to display standard definition digital broadcasts. (United States International Trade Commission. (2000). *Color Picture Tubes from Canada, Japan, Korea, and Singapore, Investigations Nos. 731-TA-367-370 (Review), Determinations and Views of the Commission*. USITC Publication No 3291. pp. 21-22.)

¹⁹ Toshiba's Himeji factory remained in operation for approximately a year after April 2003. During this year, the factory took orders from MTPD. (Deposition of Koji Kurosawa, July 30, 2012 ("Kurosawa (Toshiba Corp.) Deposition"), pp. 64-65.)

²⁰ Panasonic initially owned 65% of MTPD and appointed a majority of the company's board members. (Kurosawa (Toshiba Corp.) Deposition, p. 154.) In 2007, Panasonic acquired Toshiba's entire 35% ownership stake. (Deposition of Takashi Nakano, July 13, 2012 ("Nakano (Panasonic, MTPD) Deposition"), p. 33.)

²¹ Carlton, D.W., & Perloff, J. M. (1999). *Modern Industrial Organization, 3rd edition*. Addison-Wesley. p. 138. To be clear, I do not mean to imply that successful cartelization is impossible in the presence of asymmetries in vertical integration, merely that economists have identified such asymmetries as a contributor to cartel instability.

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CRT manufacturer (the “transfer” price) is likely to be hard to detect by other firms, and the output incentives of a vertically integrated supplier of finished products are apt to differ significantly from those of non-integrated upstream and downstream producers.²²

50. Although the CRT industry contains features that likely eroded the effectiveness of the alleged cartel, it is also true that the CRT industry is characterized by other factors that economists have identified as facilitating collusion (for example, high entry barriers due to substantial sunk costs of setting up CRT plants²³). Thus, whether or not the CRT cartel alleged by the DPP class was consistently effective in elevating prices of all (or most) products and customers during the nearly thirteen-year class period is ultimately an empirical question that needs to be resolved by examining the evidence on record.

Documentary Evidence Suggests that, Contrary to Dr. Leitzinger’s View, the Cartel Was, at a Minimum, Not Always Effective in Raising Prices across the Proposed Class.

51. In fact, the evidence strongly indicates that the alleged cartel was often not effective in elevating prices. For example, many of the documents cited by Dr. Leitzinger as evidence that the alleged cartel members met in order to set “target prices” refer to SDI (which was previously known as Samsung Display Devices (“SDD”)) undercutting prices of other alleged cartel members. One instance of this is found in a May 1998 Chunghwa document cited by Dr. Leitzinger about a meeting between alleged cartel members. The document notes that “Mr. Moon [Orion] claimed that he believed that SDD had strong

²² In particular, whereas unaffiliated finished-product manufacturers could be expected to use favorable pricing offered by one CRT manufacturer to try to convince other CRT manufacturers to offer even lower prices, an integrated finished-product manufacturer would not reveal that its upstream affiliate had cheated on the cartel agreement by lowering its transfer price.

²³ The construction of a CRT manufacturing plant required an extensive amount of time, and a high initial capital investment, and, once built, could not readily be used for uses other than CRT manufacturing. Some estimates state that a CRT facility required approximately one year to build and that construction costs ranged from \$70 to \$332 million. (Deposition of Nobuhiko Kobayashi, July 17, 2012 (“Kobayashi (Hitachi) Deposition”), p. 93; Deposition of Tatsuo Tobinaga, July 16-17, 2012 (“Tobinaga (Panasonic, MTPD) Deposition”), pp. 146-147, 151-152; and United States International Trade Commission *in the Matter of: Color Picture Tube from Canada, Japan, Korea, and Singapore*, *supra* note 18, p. 18.

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ambitions to expand M/S [market share], and that its major strategy is to ‘kill the competing makers.’ So he was suspicious about SDD’s attitude toward holding prices.”²⁴ Consistent with this, SDI’s share of global CRT sales increased sharply during portions of the class period. For example, between 2000 and 2005, SDI’s share of worldwide CDTs sold increased from 25% to 42% and its share of CPTs sold increased from 18% to 22%. During that time, SDI’s share of worldwide CDT revenue increased from 24% to 42% and its share of CPT revenue increased from 12% to 24%.²⁵ Shifting market shares among alleged conspirators is consistent with the view that the alleged cartel was not always stable or effective.²⁶

52. In addition to the conduct of SDI, qualitative evidence indicating that the cartel alleged by plaintiffs was less than consistently effective can be found in the documents cited by Dr. Leitzinger that relate to meetings among alleged cartel members. Many of these documents indicate that participants found CRT pricing by other suppliers to be

²⁴ Customer Contact Report, CHU00028952-CHU00028954, May 18, 1998. See also: Visitation Report, CHU00031113-CHU00031114 at CHU00031113, March 22, 2001; Customer Contact Report, CHU00028763-CHU00028767 at CHU00028763, February 24, 1997; CPT Sales Division Customer Contact Report, CHU00028599-CHU00028600 at CHU00028599, October 4, 1999; Visitation Report, CHU00028707-CHU00028710 at CHU00028707, July 18, 1997; Visitation Report, CHU00028713-CHU00028714, July 2, 1997; CDT Market Report, CHU00031249-CHU00031252 at CHU00031249, May 26, 2004; Visitation Report, CHU00036392-CHU00036393 at CHU00036392, January 18, 2002; Visitation Report, CHU00036394-CHU00036395 at CHU00036395, February 22, 2002.

²⁵ SDI shares are taken from the following documents: *Flat Panel Display Applications: Trends and Forecasts*. (2001). Fuji Chimera Research Institute, translated by InterLingua; *Flat Panel Display Applications: Trends and Forecasts*. (2007). Fuji Chimera Research Institute, translated by InterLingua.

²⁶ Economists have recognized that shifting shares among alleged cartel members is a symptom of an unstable cartel. (See, e.g., Grout, P., & Sonderegger, S. (2005). Predicting Cartels. *Office of Fair Trading*; Harrington, J. E. (2007). Detecting Cartels. In P. Buccirosi (Eds.), *Advances in the Economics of Competition Law*. MIT Press.) Nevertheless, Dr. Leitzinger testified at his deposition that he had not “analyzed shares among the different producers of CRTs and how they may have changed, one versus the other, over the period.” Leitzinger Deposition, p. 130.

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opaque and that alleged cartel members often engaged in pricing conduct that deviated from what Dr. Leitzinger refers to as “target prices” set by the putative cartel.²⁷

Actual CRT Prices Frequently Deviated from the Alleged Cartel Target Prices.

53. The documentary evidence of breakdowns in the alleged cartel is supported by data on actual CRT prices. Specifically, I have compared actual CRT prices charged by the alleged cartel members to the “target prices” that Dr. Leitzinger alleges were set by these firms, and I find that actual prices frequently deviated from the alleged target prices. In particular, based on Dr. Leitzinger’s data on actual CRT prices and the alleged target prices, only 29% of the CDTs and 42% of the CPTs for which Dr. Leitzinger identified an alleged target price during the class period were priced within 5% of the alleged applicable target price.

54. Moreover, the data are consistent with pervasive cheating on the alleged target prices. Specifically, 76% of CDT unit sales and 56% of CPT unit sales in CRT categories for which Dr. Leitzinger identified an alleged applicable target price during the class period were priced below that target price.²⁸ Because Dr. Leitzinger has not presented any but-for prices for particular CRTs, he has provided no basis that would allow a fact-finder to

²⁷ See, e.g., CDT Market Report, CHU00031249-CHU00031252 at CHU00031249, May 26, 2004; Visitation Report, CHU00031142-CHU00031147 at CHU00031144, June 27, 2001; Visitation Report, CHU00030670-CHU00030674 at CHU00030673, October 1, 1998; Customer Contact Report, CHU00028763-CHU00028767 at CHU00028763, February 24, 1997. See also, CPT Sales Division Customer Contact Report, CHU00028599-CHU00028600 at CHU00028599, October 4, 1999; Visitation Report, CHU00028707-CHU00028710 at CHU00028707, July 18, 1997; Visitation Report, CHU00030809-CHU00030814 at CHU00030809, July 23, 1999; Visitation Report, CHU00036394-CHU00036395 at CHU00036395, February 22, 2002; Report on the Results of the Industry Working Level Meeting on July 28, SDCRT-0086662-SDCRT-0086664 at SDCRT- 0086662, July 29, 1999.

²⁸ These figures are conservative estimates of the share of CDT and CPT sales prices below the alleged applicable target price because Dr. Leitzinger’s target price data represent the minimum target prices he identified for a given manufacturer, application, size, finish, and quarter. (Leitzinger Report, ¶ 39 (“Where the target involved a range of prices, the minimum price was recorded.”)) Thus, an actual price for a specific CRT model could have been above the minimum target price for that manufacturer, application, size, finish, and quarter, but still been below the alleged target price that was actually applicable to that model.

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ascertain which, if any, of the substantial majority of CRTs priced below the alleged applicable target prices were priced above the but-for price. Of particular importance for assessing issues pertaining to class certification is that some of the CRTs priced below the alleged applicable target price may have been above the corresponding but-for price (*i.e.*, they may have been impacted by the alleged cartel) while others may not. In fact, as discussed in Section VI below, when Dr. Leitzinger's overcharge model is re-run separately for different categories of CRTs (using the same data that he used), the model produces overcharge estimates for CDTs and for small CPTs that are not statistically different from zero. Thus, it is possible that there was no impact on entire segments of CRT sales.

A Properly Specified Econometric Model Shows Little or No Connection between the Alleged Cartel Target Prices and Actual Prices.

55. As the preceding analysis shows, the alleged cartel members frequently deviated from the alleged applicable target prices, suggesting that the target prices had, at most, a non-uniform impact on actual CRT prices. In order to further examine this issue, I have analyzed whether changes in actual prices tended to track changes in target prices.

56. For example, based on a Chunghwa document dated August 21, 1998, Dr. Leitzinger infers that several alleged cartel members attended the meeting referenced in this document and agreed to set a target price for 15-inch CDTs of \$60 that would be effective on August 1998.²⁹ This represents an increase of \$5 over the previous target price in May 1998 identified by Dr. Leitzinger for the same product. If the alleged cartel members adhered to the alleged target prices when setting their actual sales prices, then their actual 15-inch CDT sales prices would have increased by an amount approximately similar to the alleged increase in the target price of \$5 during the relevant period. Conversely, if alleged cartel members rarely adhered to the alleged target prices, then we

²⁹ Sales Department Customer Contact Report, August 21 1998, CHU00028385-6 at CHU00028386; Summarized Meeting Report, June 4 1998, CHU00028638.01E-.02E at CHU00028638.01E.

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should observe that changes in actual sales prices of 15-inch CDT models were inconsistent with changes in the target prices identified by Dr. Leitzinger.

57. To test this prediction of cartel effectiveness more broadly for the entire set of target prices identified by Dr. Leitzinger, I have employed an econometric model to estimate how well quarter-to-quarter changes in actual prices of individual CRT models are predicted by changes in the corresponding target prices identified by Dr. Leitzinger.^{30, 31}

If the alleged cartel members closely adhered to the putative target prices, then changes in target prices should reliably predict changes in actual prices.³² In fact, the relevant data

³⁰ Dr. Leitzinger partitions CRT sales by “panel” and quarter. He defines a “panel” as all sales to the same customer of models that share the same manufacturer, application (CDT or CPT), size, and finish (bare or ITC). He then derives an average target price for each panel-quarter based on his reading of the case record, which he applies to all customers in the panel (Leitzinger Report, Figure 7, fn. 2.) For each model and customer in a given panel, I compared changes in the actual quarterly prices charged to a given customer for a given model to changes in the alleged average target price for that panel. For example, I compared the change in the actual quarterly price paid by Funai (a customer) for a particular SDI 14-inch bare CPT model (A14GR00207) between the first quarter and second quarter of 2003 with the change in the average alleged target price for all SDI 14-inch bare CPT models during the same time period.

³¹ Because there may be no information on actual and/or target prices for a given quarter, my staff (under my instructions) looked for quarters in which Dr. Leitzinger identified alleged target prices and allegedly applicable actual prices and measured the average quarterly actual and target price changes between such quarters. For example, if a model was sold to a given customer in Q1 2003, Q2 2003, and Q3 2003, but Dr. Leitzinger only identifies a target price for the corresponding panel in Q1 2003 and Q3 2003, then the actual and target price change for Q3 2003 would both be based on the average quarterly price change between Q1 2003 and Q3 2003.

³² I compare actual and target price *changes* rather than *levels* because target price levels are likely to be somewhat predictive of actual price levels even if the alleged cartel members completely ignored the alleged target prices. For example, all else equal, both target and actual prices for a 30-inch CPT would presumably be higher than for a 14-inch CPT regardless of whether the alleged cartel members ever adhered to the target prices. Thus, actual and target price levels would be highly correlated regardless of the extent to which alleged cartel members adhered to the alleged target prices. Additionally, declining production costs could be expected to reduce both actual and target prices regardless of whether the alleged cartel members ever adhered to the target prices. Comparing changes in actual and target prices mitigates these biases in two ways. First, price *changes* were less correlated with product characteristics than were price *levels*. However, even an analysis of price changes is conservative in this regard because, as discussed in Section IV below, quarter-to-quarter price changes as well as long term price

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demonstrate that quarterly changes in *target* prices are extremely poor predictors of changes in *actual* prices. Specifically, the R-squared statistic associated with my econometric model is 0.033. (See Exhibit 1, row 1.) The R-squared statistic is a standard metric ranging from 0 to 1 that measures the share of variation in the dependent variable in the model (in this case, changes in actual prices) that is explained by the independent variable(s) (changes in the alleged target prices).³³ In the context of this analysis, an R-squared statistic of 0.033 indicates that changes in the target prices identified by Dr. Leitzinger explain only 3.3% of the variation in changes in the actual prices for corresponding CRTs. That is, the model demonstrates that changes in the alleged target prices are extremely poor predictors of changes in actual prices.^{34, 35}

58. Moreover, target price changes do an extremely poor job of predicting changes in actual prices even on average. Specifically, as noted in Exhibit 1, row 1, the estimated

(... footnote continued)

trends were different across different categories of CRTs, meaning that some correlation across actual and target price changes could be expected regardless of the extent to which the alleged cartel members adhered to the alleged target prices. Second, although changes in market conditions would be expected to have an exogenous effect on both actual and target price *changes*, this effect should at least be limited to contemporaneous changes in market conditions. Conversely, changes in market conditions would be expected to have a cumulative effect over time on actual and target price *levels*. Thus, a comparison of actual and target price changes at least mitigates the impact of changes in market conditions relative to an analysis of the relationship between actual and target price levels. As discussed in the notes to Exhibit 1, I conducted several robustness checks on this regression, one of which was to include changes in the market variables that Dr. Leitzinger included in the analysis presented in Figure 7 of his report. Including these variables does not materially affect my estimates of the low ability of changes in target prices to predict changes in actual prices. (See Exhibit 1, row 4.)

³³ Gujarati, D. N. (1995). *Basic Econometrics*, 3rd edition. McGraw Hill. pp. 74-78.

³⁴ See Exhibit 1 for further details about the data used and model specification. I have conducted several robustness checks on this regression (described in the notes to Exhibit 1) and none of the variations yield an R-squared above 0.197, which implies that changes in target prices explain very little of the changes in actual prices.

³⁵ Including past changes in target prices in my regressions to allow for the possibility that adherence to the alleged target prices did not occur immediately does not materially affect my estimates of the low ability of changes in target prices to predict changes in actual prices. (See Exhibit 1, row 6.)

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coefficient on the target price change in my model is 0.157, which implies that a 5% increase in the target price identified by Dr. Leitzinger is, on average, associated with only a 0.78% increase in the actual price during the same quarter. Moreover, even this slight correlation does not imply causation (i.e., the change in actual price may not be due to the change in target price) since actual and target price changes are both likely to have been affected in the same direction by common market factors, generating some positive correlation between the two series, irrespective of whether the alleged cartel members ever adhered to the alleged target prices.

59. The very low R-squared and estimated coefficient on changes in the target price in the regression analysis described above demonstrate that there was an extremely weak relationship between changes in the target price and changes in the actual price. Moreover, these regression results are based on 5,315 observations (see Exhibit 1, row 1), which is a substantial sample that is larger than the samples that Dr. Leitzinger relied upon in some of the statistical analyses that he presents in his report.³⁶ I therefore conclude that the regression results demonstrate in a robust manner that the alleged cartel was far from consistently effective (if at all), which is consistent with the documents on record and cited by Dr. Leitzinger.³⁷

³⁶ See, e.g., Leitzinger Report, Figures 7, 9, and 13.

³⁷ While the CRT prices were negotiated in different currencies, the degree of adherence to the purported target prices is most logically measured using U.S. dollars. This conclusion follows naturally from Dr. Leitzinger's allegation that the alleged cartel was orchestrated through the use of target prices that were denominated in U.S. dollars. In fact, he assumes that there was only a single global target price (expressed in U.S. dollars) for any given product (or set of products) at a particular point in time – not different target prices depending on the region of sale or the currency in which a particular price was negotiated. If the alleged cartel members closely or uniformly adhered to the alleged U.S. dollar-denominated (“USD”) target prices, then changes in USD target prices should reliably predict changes in USD actual prices. Nevertheless, for further confirmation of my results, I added independent variables that control for changes in the exchange rate between the currency in which prices were negotiated (“negotiated-price currency”) and U.S. dollars to my econometric analysis of changes in USD actual prices and USD target prices. These variables allow the model to account for any impact that changes in the exchange rate between the negotiated-price currency and U.S. dollars had on USD actual price changes. My qualitative results remain unchanged. Specifically, the R-squared statistic

(footnote continued ...)

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60. The inability of changes in the target prices identified by Dr. Leitzinger to predict changes in actual prices is further illustrated in Exhibit 2. In this exhibit, the vertical axis represents quarterly changes in *actual* sales prices of CRT models and the horizontal axis represents changes in the corresponding alleged *target* prices during the same quarter.³⁸

61. If actual prices followed target prices closely, I would expect most observations to be located close to the 45-degree line (which is traced in the chart) indicating that an actual price change was equal to the alleged applicable target price change. However, although most of the data points are located in the lower left quadrant of the chart – consistent with the general downward trend in CRT prices over the course of the class period – the points are widely diffuse rather than clustered around the 45-degree line, which demonstrates that changes in actual prices for CRTs differed widely from changes in the alleged applicable target prices. In fact, as Exhibit 2 makes clear, actual prices often moved in opposite directions from the alleged applicable target price. In particular, in 45% of the instances in which an alleged target price increased, the corresponding actual prices decreased.

62. Part of the lack of consistent adherence to target prices identified by Dr. Leitzinger was likely due to the fact that during the class period some alleged cartel members were vertically integrated. As explained above, varying degrees of vertical integration among

(... footnote continued)

associated with this econometric model is 0.111 (See Exhibit 1, row 5.), indicating that changes in the target prices identified by Dr. Leitzinger and changes in the exchange rates between the negotiated-price currency and U.S. dollars together explain only 11.1% of the variation in changes in CRT actual USD prices. Additionally, the estimated coefficient on the target price change in this model is 0.144, which is lower than in the model without controls for exchange rate movements, and implies that a 5 percentage point increase in the target price identified by Dr. Leitzinger is, on average, associated with only a 0.72 percentage point increase in the actual price during the same time period. Thus, even after controlling for the influence of exchange rate movements on USD actual price changes, the results of my econometric model demonstrate that the alleged cartel was far from uniformly effective (if at all).

³⁸ More precisely, the vertical axis measures the change in the actual average sales price of a particular model of CRT sold to a particular customer by a particular manufacturer in a particular quarter. The horizontal axis measures the change in the alleged target price for the corresponding manufacturer, application, size, and finish in the same quarter.

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alleged cartel members can potentially erode the effectiveness of price cartels. The transfer price paid by an affiliated downstream finished-product manufacturer to an upstream CRT manufacturer is likely to be opaque to other CRT manufacturers, thus enabling integrated firms to deviate from cartel agreements with a relatively lower risk of detection and penalties for such cheating.

63. Consistent with this potential for cartel erosion, sales data on record indicate that prices of *transfer* CRT sales were even less likely to follow target prices identified by Dr. Leitzinger than prices of *merchant* CRT sales. Specifically, I implemented the same econometric model as the one described above (i.e., where I assess how well quarter-to-quarter changes in actual prices are predicted by target price changes), but now I do so separately for merchant and transfer CRT prices. Put differently, I inquire whether there is any difference between (a) the extent to which changes in *transfer* CRT prices are correlated with target price changes and (b) the extent to which changes in *merchant* CRT prices are correlated with target price changes.

64. If vertically integrated firms deviated more from the target prices identified by Dr. Leitzinger when they sold CRTs to downstream affiliates than when they sold to unaffiliated customers, then we would observe a smaller correlation between transfer prices and target prices than between merchant prices and target prices. I find that this indeed is the case. Specifically, when I implement the model for merchant CRT sales, the model is associated with a very low R-squared of 0.036, implying that only 3.6% of the variation in actual price changes can be explained by target price changes (and even then correlation is not tantamount to causation). The estimated coefficient on the change in target price is 0.168, which is small – implying that a 5% increase in the target price is associated with only a 0.84% increase in the actual price – but statistically different from zero.³⁹ (See Exhibit 1.)

65. When I implement the same model for *transfer* CRT sales, the associated R-squared is an even lower 0.003. The estimated coefficient on the change in target price is 0.036 –

³⁹ I test for significance using a two-tailed t-test at the 95% level.

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which implies that a 5% increase in the target price is associated with only a 0.18% increase in the actual price – and this estimate is not statistically different from zero. Thus, the data do not support the existence of any positive relationship between changes in the alleged target prices and changes in actual *transfer* CRT prices. Similarly, the data do not support the existence of a positive relationship of meaningful size between changes in the alleged target prices and changes in actual *merchant* CRT prices.

66. In sum, I conclude that the evidence indicates that the target prices set by the alleged cartel were either ineffective or at least were not frequently effective in elevating sales prices of CRTs. Thus, the data are inconsistent with Dr. Leitzinger's claim that the alleged target prices constituted a mechanism by which the alleged cartel effected common class-wide impact. Consequently, individualized inquiries would be required to establish whether the alleged cartel was effective at elevating prices for specific CRT models to specific customers at specific times.

B. Dr. Leitzinger's Analyses of Actual and Target Price Data Do Not Establish Class-wide Impact.

67. Dr. Leitzinger reviews the same data that I discussed in the previous section but reaches a different conclusion. In particular, Dr. Leitzinger contends that the cartel agreed to set "target" prices that "extended directly to CRTs representing the vast majority of total sales."⁴⁰ He also presents a regression analysis that he purports shows that these target prices "had a demonstrable effect on actual prices paid."⁴¹ Lastly, Dr. Leitzinger presents an hedonic regression analysis that he claims is evidence that the alleged cartel had a class-wide impact on CRT prices.⁴²

68. However, as explained in greater detail in the rest of this section, Dr. Leitzinger's analyses are not valid common evidence of class-wide impact for several reasons. First, the alleged target prices that Dr. Leitzinger identified were at most applicable to a small

⁴⁰ Leitzinger Report, ¶¶ 6 and 40.

⁴¹ Leitzinger Report, ¶¶ 6 and 43-44.

⁴² Leitzinger Report, ¶ 38.

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fraction of CRT sales. Second, Dr. Leitzinger's analysis of actual and target prices (his "actual-target regression analysis") at most demonstrates a positive relationship between actual and target prices; it does not demonstrate that the alleged target prices had an impact on actual CRT prices. Third, his actual-target regression analysis estimates only the *average* relationship between actual and target prices; it is silent about whether there was a class-wide relationship between actual and target prices (and is also effectively silent about CDTs). Fourth, Dr. Leitzinger's "actual-target regression" analysis has methodological flaws that cause him to overstate even the average relationship between actual prices and target prices. Last, even if the product characteristics in Dr. Leitzinger's hedonic regression analysis could perfectly explain all of the variation in actual prices, this still would provide no information about whether the alleged cartel elevated prices of all or most CRTs.

The Alleged Target Prices that Dr. Leitzinger Identified Were at Most Applicable to a Small Fraction of CRT Sales

69. Dr. Leitzinger asserts that "target prices" involved a range of CRT types and sizes that accounted for the vast majority of CRT shipments. Specifically he writes, "[T]he share of shipments represented by the targeted CRTs was 90 percent for CPTs and 99 percent for CDTs... That result, by itself, would go a long way towards establishing the existence of broad impact on the part of the alleged conspiracy."⁴³

70. However, Dr. Leitzinger's conclusion does not follow from the figures he reports because the figures do not show that target prices existed for 90-plus percent of CRT sales. Rather, Dr. Leitzinger obtained such high shares by *counting every CRT sold during the entire class period* for a particular application (CDT or CPT) and size ("category") if he identified even one alleged target price for one manufacturer of one particular variety of that category of CRT in one quarter during the class period. For example, Dr. Leitzinger includes all sales of 17-inch CDTs, which comprised 50% of all

⁴³ Leitzinger Report, ¶ 40. Dr. Leitzinger alleged that the targeted CRTs represented 94% of all CRT shipments during the class period. *Id.*

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CDTs sold between 1995 and 2007, when deriving his claim that the targeted CDTs accounted for 99% of CDT shipments.⁴⁴ However, Dr. Leitzinger identified alleged target prices that were for 17-inch CDTs in only six of the fifty-two quarters comprising the class period. Moreover, based on Dr. Leitzinger's data, these alleged target prices corresponded to only 7.3% of the 17-inch CDTs sold during the class period.

71. A similar pattern emerges for most of the other "targeted" CRT categories included in Figure 6 of Dr. Leitzinger's report. In particular, for eight of the twelve CRT categories that Dr. Leitzinger refers to as "targeted," he identified alleged target prices in only six or fewer of the fifty-two quarters during the class period. As a consequence, Dr. Leitzinger identified allegedly applicable target prices for less than 10% of the shipments in nine of the twelve CRT categories (and none of the CDT categories) that Dr. Leitzinger describes as "targeted" in Figure 6 of his report. In all, CRT sales for which Dr. Leitzinger has not identified applicable target prices collectively accounted for 83% of CRTs sold during the class period. Specifically, Dr. Leitzinger identified allegedly applicable target prices for at most only 6% of CDT shipments and 24% of CPT shipments during the class period.⁴⁵ This is illustrated graphically in Exhibits 3A and 3B.

Dr. Leitzinger's Analysis of Actual and Target Prices at Most Demonstrates a Positive Relationship between Actual and Target Prices; It Does Not Demonstrate that the Alleged Target Prices Had an Impact on Actual CRT Prices.

72. Dr. Leitzinger concludes that his actual-target regression analysis "reveal[s] a positive relationship between target prices and actual prices."⁴⁶ However, even if there were "a

⁴⁴ Leitzinger Report, Figure 6.

⁴⁵ Even these figures overstate the share of sales for which Dr. Leitzinger identified alleged target prices because they include sales of CRTs that had a different shape, resolution, frequency, safety standards, mask type, neck diameter, and/or shipping terms from those specified in the alleged applicable target price. The shares would undoubtedly be lower if the calculation were limited to sales and alleged target prices that shared these characteristics, although it is not possible to measure how much lower given the data available.

⁴⁶ Leitzinger Report, ¶ 44.

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positive relationship between target prices and actual prices,” it does not necessarily follow that the alleged target prices had an impact on actual CRT prices, for at least three reasons. First, to the extent that the control variables that Dr. Leitzinger included in his regression do not capture all of the market forces that affected both actual and target prices, one would expect to observe a positive relationship between actual and target prices regardless of the extent to which target prices influence actual prices. Second, there is evidence in the documents cited by Dr. Leitzinger of the alleged target prices being set at least partly based on past actual prices, and in particular of target prices being lowered because alleged cartel members were already charging prices that were relatively low.⁴⁷ If target prices were set even partly based on actual prices, then one would expect to find a positive relationship, at least on average, between actual prices and target prices without target prices having any impact on actual prices. Finally, even if actual prices and target prices exhibit a positive relationship, it does not preclude the possibility that actual prices were frequently below the alleged applicable target prices. In fact, as discussed above, a majority of actual CRT prices were below the alleged target prices.

Dr. Leitzinger’s Actual-Target Regression Analysis Estimates Only the Average Relationship between Actual and Target Prices; It Is Silent about Whether There Was a Class-wide Relationship between Actual and Target Prices.

73. As an initial matter, Dr. Leitzinger’s “actual-target regression” analysis is essentially silent regarding the relationship between actual prices and target prices for CDTs, as only 3 of the 3,151 observations in his regression involve CDT sales. These three observations represent only 0.03% of all CDTs sold during the class period.⁴⁸ This is

⁴⁷ See, e.g., Visitation Report, July 18, 1997, CHU00028707; Customer Contact Report, November 21, 1997, CHU00028674.

⁴⁸ As explained in the previous section, Dr. Leitzinger identified allegedly applicable target prices for only 6% of CDT shipments during the class period. However, Dr. Leitzinger chose to include lagged variables in his regression specification, which in turn required limiting his data to the tiny fraction of CDT sales for which he identified alleged applicable target prices in consecutive quarters. Dr. Leitzinger’s regression analysis also contains no observations for sales by one of the two Defendants, Hitachi, or for any CRTs sold in 1995 to 1998, 2001, or 2007.

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particularly noteworthy, because, as discussed in Section VI below, when I employ Dr. Leitzinger's data and overcharge model separately for CPTs and CDTs instead of pooling them together as he does, I find that his CRT overcharge regression model implies that average CDT prices were not elevated during the alleged cartel period relative to the benchmark non-cartel period. At his deposition, Dr. Leitzinger did not know how many of the observations in his actual-target regression represented CDT sales,⁴⁹ but he conceded that, if the regression included only three observations related to CDT sales, the regression could not be used to show that there was a positive relationship between target prices and actual prices for CDTs.⁵⁰

74. Additionally, Dr. Leitzinger's actual-target regression analysis estimates only the *average* relationship between actual and target prices. That is, the regression produces a single set of coefficient estimates that purportedly reflect the average relationship between actual prices and target prices across all of the sales and alleged applicable target prices included in his analysis. This does not imply that the relationship between actual prices and target prices was the same across all CRTs. Thus, Dr. Leitzinger's regression analysis provides no guidance as to whether the relationship (much less impact) was positive across all or even most CRTs ultimately purchased by the proposed class. In Section III.A, I demonstrated that *changes* in the alleged target prices identified by Dr. Leitzinger were poor predictors of *changes* in the actual prices of the corresponding CRTs. Based on this evidence, I concluded that the alleged cartel was either ineffective or at least was not frequently effective.

75. Nevertheless, in order to further confirm my results, I have assessed whether the alleged target prices, expressed in the same functional form as in Dr. Leitzinger's

⁴⁹ Leitzinger Deposition, p. 135.

⁵⁰ Leitzinger Deposition, p. 136. ("If there were just three observations for CDTs, I don't think you could use this result as a -- to show, as a statistical matter, that there was a relationship between target prices and actual prices for CDTs, if one starts with testing the hypothesis that it might be different for CDTs than CPTs.")

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analysis,⁵¹ are reliable predictors of actual price *levels*. In fact, a statistical analysis of actual and target prices reveals that predicting the average actual price for a given panel and quarter based on the alleged applicable target price could be expected to be wrong by more than 5% at least 72% of the time, by more than 10% at least 48% of the time, and by more than 15% at least 30% of the time.^{52, 53} (See Exhibit 4.) Given that documents cited by Dr. Leitzinger indicate that price differences of even 5% can result in shifts in sales and shares,⁵⁴ the fact that predictions of actual prices based on observed target prices would frequently be wrong by more than 5%, 10%, and even 15% confirms my earlier finding that target prices are poor predictors of actual prices. If the alleged cartel members had adhered consistently to the alleged target prices, the target prices would be

⁵¹ Specifically, similar to Dr. Leitzinger, in the first stage of my analysis I regress the natural log of the quarterly average price for a given panel (defined by Dr. Leitzinger to include all CRT sales that share the same manufacturer, application, size, finish, and customer) and quarter on (i) the previous quarter's alleged target price for the corresponding manufacturer, application, size, and finish and (ii) the change in the alleged target price from the previous quarter to the current quarter for the corresponding manufacturer, application, size, and finish. Unlike Dr. Leitzinger's regression, I do not include the natural log of the average actual price from the previous quarter, any macroeconomic variables, or fixed effects because if the alleged cartel members adhered uniformly to the alleged target prices than the target prices alone should be able to accurately predict actual prices.

⁵² These results are statistically significant at the 95% confidence level. Specifically, they are based on the 5% lower bound on the variance of the prediction errors. The estimated probabilities of exceeding the 5%, 10%, and 15% prediction error thresholds are even higher if Dr. Leitzinger's methodological flaws described in the next sub-section are corrected. (See Exhibit 4.)

⁵³ The regression does produce a relatively high R-squared statistic. However, discussed in *supra* note 32, actual price levels and target price levels are both likely to be heavily influenced by product characteristics and market conditions. As a result, a regression of actual price levels on target price levels could produce a high R-squared statistic even if the alleged cartel members did not adhere at all to the alleged target prices. Nevertheless, my analysis shows that predictions of actual prices based on target prices would frequently be wrong by economically meaningful amounts.

⁵⁴ See, e.g., CPT Sales Division Customer Contact Report, October 4, 1999, CHU00028599; CDT Market Report, March 28, 2004, CHU00031249; and Customer Contact Report, February 2, 1997, CHU00028763.01E.

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able to predict actual prices with greater precision.⁵⁵ Thus, the evidence indicates that the alleged cartel members did not consistently adhere to the alleged target prices, if at all.

Dr. Leitzinger Overstates the Average Relationship between Actual Prices and Target Prices.

76. As discussed above, the regression presented in Figure 7 of Dr. Leitzinger's report represents an estimate of the *average* relationship between actual prices and target prices.⁵⁶ The analysis that Dr. Leitzinger presents in Figure 7 of his report suffers from two methodological flaws that inflate his estimate of the average relationship between actual prices and target prices. The first is that although Dr. Leitzinger attempts to identify and remove outlier observations from the CRT sales data before performing his analysis,⁵⁷ his methodology for doing so fails to remove even some fairly obvious outliers.

77. For example, according to the dataset on which Dr. Leitzinger's regression analysis is based, Sanyo purchased 48 29-inch bare CPTs from SDI in Q1 2003 for an average price of \$151.33. During this quarter, the alleged applicable target price identified by Dr. Leitzinger was \$107. Over each of the next four quarters, Sanyo purchased at least 5,000 29-inch bare CPTs from SDI at quarterly average prices that ranged from \$93.37 to \$99.29. During those quarters, the alleged applicable target price identified by Dr. Leitzinger ranged from \$95 to \$105, with the actual price remaining below the target price in each of the four quarters. Based on this information, it is clear that the price that

⁵⁵ This would be true even if the alleged cartel members deviated from the target prices but did so uniformly.

⁵⁶ As also noted above, even a positive average relationship between actual prices and target prices does not imply that target prices had an impact on actual prices, even on average.

⁵⁷ Specifically, Dr. Leitzinger drops all CRT sales for which (1) the units shipped is less than or equal to five, (2) the price is less than or equal to \$10 or greater than or equal to \$6,000, or (3) the price is more than three standard deviations away from the average price for all CRTs with the same application and size, where the mean and standard deviation are determined based on all CRTs sales of the corresponding application, size, and year.

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Sanyo reportedly paid in Q1 2003 was an outlier, perhaps owing to the small initial quantity that Sanyo purchased or some other factor.⁵⁸

78. Although such extreme outliers are rare in Dr. Leitzinger's regression dataset, they have important implications for his estimate of the average relationship between actual and target prices, specifically, on his estimate of the coefficient on the previous quarter's target price. Specifically, Dr. Leitzinger's regression interprets the pricing data described in the previous paragraph as demonstrating that the alleged target price from Q1 2003 (\$107) is a better predictor of the actual price in Q2 2003 (\$99.29) than is the \$151.33 actual price from Q1 2003, which results in a larger estimated coefficient on the previous quarter's target price. Dr. Leitzinger interprets this coefficient as reflecting any delayed response of the actual price to the target price,⁵⁹ even though in this case it is the fact that the Q1 2003 actual price was an outlier rather than the influence of the alleged target price that caused the actual price to decline in Q2 2003 (and subsequently remain below the alleged target price).

79. In order to identify and remove these types of outliers, I applied a filter based on the observed changes in average quarterly prices for a particular model sold to a particular customer.⁶⁰ Applying this filter results in the elimination of only 18 of the 3,151

⁵⁸ This pattern in Dr. Leitzinger's regression dataset does not result from the other methodological flaw in Dr. Leitzinger's analysis, which is that he combines prices for different CRT models for the same manufacturer, application, size, finish, customer and quarter into a single observation, which means that when he calculates actual prices for the current and previous quarter, they need not be based on the same set of CRT models. In this example, Sanyo purchased the same 29-inch bare CPT model from SDI in Q1 2003 (A29UR00006) as in Q2 2003, and, although it started purchasing a second 29-inch bare CPT model from SDI in Q3 2003 (A29GR00127), Sanyo paid average quarterly prices of less than \$100 for each of these two models in every subsequent quarter.

⁵⁹ Leitzinger Report, fn. 88.

⁶⁰ Specifically, for each quarter in which a given CRT model was sold to a given customer, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as "very large price decreases" or "very large price

(footnote continued ...)

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observations in Dr. Leitzinger's regression analysis (and alters 27 others). However, removing these few outliers causes the estimated coefficient on the previous quarter's alleged target price to decline from 0.32 to 0.26 and the estimated coefficient on the change in the alleged target price from the previous quarter to the current quarter to decline from 0.16 to 0.14.

80. The second methodological flaw in Dr. Leitzinger's regression analysis is that he combines prices for different CRT models for the same manufacturer, application, size, finish, customer and quarter into a single observation, which means that when he calculates actual prices for the current and previous quarter, they need not be based on the same set of CRT models.⁶¹ As a result, Dr. Leitzinger's methodology needlessly manufactures artificial variation in his quarterly average actual prices. Instead, I have calculated quarterly average actual prices separately for each model, customer, and quarter, and then re-run Dr. Leitzinger's regression analysis (after applying the outlier filter noted earlier). The resulting estimated coefficient on the previous quarter's alleged target price to decline further from 0.26 to 0.17 (as compared to calculating quarterly average prices at the panel level and applying the outlier filter) and the estimated

(... footnote continued)

increases," respectively. Prices for a given model, customer, and quarter were excluded as outliers if: (a) the price for the model and customer experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer, or vice versa; (b) it was the first quarter in which the model was sold to the customer and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer; or (3) it was the last quarter in which the model was sold to the customer and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer.

⁶¹ For example, in Q4 2003, SDI sold seven different 21-inch bare CPT models to Samsung Electronics at prices ranging from \$33.56 to \$45.21. In the following quarter, SDI sold only three of those models plus one additional 21-inch bare CPT model to Samsung Electronics at prices ranging from \$33.14 to \$43.14. Additionally, Samsung Electronics purchased a relatively higher share of the more expensive models in Q1 2004 than in Q4 2003. As a result, even though Samsung Electronics paid a lower price for two of the three models that it purchased in both quarters and virtually the same price for the third model, Dr. Leitzinger's regression data reflects a 7.8% increase (from \$39.85 to \$42.94 in the price that Samsung Electronics paid SDI for 21-inch CPT models from Q3 2003 to Q1 2004).

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coefficient on the change in the alleged target price from the previous quarter to the current quarter to decline further from 0.14 to 0.12.⁶² Thus, correcting for these two flaws in Dr. Leitzinger's methodology results in a substantial reduction in a substantial overcharge in his estimate of average relationship between actual and target prices.

81. In sum, for all the reasons described above, Dr. Leitzinger's actual-target regression fails to demonstrate that the alleged cartel effectuated class-wide impact through its alleged setting of target prices.

Dr. Leitzinger's Hedonic Regressions Undermine Claims of Class-wide Cartel Impact

82. Dr. Leitzinger estimates a series of hedonic regressions using CDT and (separately) CPT data. These regressions attempt to predict CDT and CPT prices based on several characteristics⁶³ of these CRTs, the transaction quantities, and brand value.⁶⁴ Dr. Leitzinger asserts that the high R-squared statistics of his hedonic regressions implies that product characteristics and other factors included in his regressions explain a substantial portion of the variation in CRT prices. Put differently, he claims that there is little CRT price variation once he accounts for certain product characteristics. In his report, he

⁶² I also addressed two additional flaws in Dr. Leitzinger's methodology. First, Dr. Leitzinger's regression analysis includes sales between integrated entities that sold CRTs, even though the prices for these transactions may not be market-based. Second, Dr. Leitzinger treated all the sales for which the customer name was missing as if they were purchased by a single customer. For these observations, when he calculates actual prices for the current and previous quarter, he is most likely comparing purchases by different customers. Because prices for a given CRT model often vary across customers, this assumption introduces artificial variation in his quarterly average actual prices. Nevertheless, removing sales between integrated entities that sold CRTs and sales for which the customer name is missing have a de minimis effect on the results of Dr. Leitzinger's regression analysis.

⁶³ These characteristics are: size, aspect ratio (i.e., whether the CRT is widescreen or not), and whether the CRT was sold with or without a deflection yoke (the "finish" of the CRT). Dr. Leitzinger estimated these regressions separately for each calendar quarter during the class period. Results from Dr. Leitzinger's hedonic analyses are presented in Figure 5 of his report, and they are discussed in ¶¶ 34-38.

⁶⁴ Dr. Leitzinger includes manufacturer fixed effects in his hedonic regressions to control for differences across manufacturers.

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describes this as evidence that “selective conspiracy impacts do not appear to be the reason for the observed [CRT] price variability.”⁶⁵ Thus, Dr. Leitzinger appears to claim that his hedonics regressions imply that any impact the alleged cartel had on prices would have been class-wide. However, for reasons described below, Dr. Leitzinger’s hedonic regressions do not demonstrate (and in fact are inherently incapable of demonstrating) that any impact would have been class-wide, a fact that Dr. Leitzinger conceded at his deposition.⁶⁶

83. Even if Dr. Leitzinger’s hedonic regressions predict CRT prices as well as he claims they do, the R-squared statistics of these regressions are irrelevant for the purpose of testing whether alleged cartel activities resulted in class-wide impact – even if the putative cartel had highly differentiated impacts on CRT prices, the hedonic regressions could still have high R-squared statistics. This is not surprising because the said regressions only use actual CRT price data from the claimed cartel period; they do not in any way employ but-for prices or compare actual and but-for prices for any type of CRT.⁶⁷

84. The fundamental inability of the high R-squared statistics of Dr. Leitzinger’s hedonic regressions to provide any insight into whether the alleged cartel had a uniform or differentiated impact on CRT prices is illustrated by the following thought experiment: suppose that the but-for price for all CDTs and CPTs was \$100, and a hypothetical CRT cartel succeeded in elevating all CPT prices to \$110, but the cartel was entirely unsuccessful in elevating CDT prices. In this hypothetical, knowing a CRT’s product characteristics – specifically, whether it was a CDT or CPT – would enable one to perfectly predict its price (producing the highest-possible R-squared of 1), even though the cartel’s impact is clearly not consistent. This example illustrates why the ability of CRT product characteristics to explain CRT prices accurately provides no information

⁶⁵ Leitzinger Report, ¶ 38.

⁶⁶ Leitzinger Deposition, pp. 93-94.

⁶⁷ At his deposition, Dr. Leitzinger acknowledged that his hedonic regressions do not estimate or use but-for prices (Leitzinger Deposition, p. 94).

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regarding whether any impact was uniformly positive across CRTs with different product characteristics.

85. At his deposition, Dr. Leitzinger acknowledged that his hedonic regressions could produce high R-squared statistics even if the alleged cartel affected only CPT prices but not CDT prices (or vice versa) and if it affected only small CPT prices but not large CPT prices.⁶⁸ In effect, Dr. Leitzinger acknowledges that even if CRT prices were largely determined by observable factors common to class members, it would not in any way establish that the alleged cartel had a class-wide impact.

86. Although the high R-squared statistics highlighted by Dr. Leitzinger are irrelevant for assessing class-wide impact of the alleged cartel, other elements of his hedonic regressions undermine his claim of class-wide impact because they demonstrate that market conditions differed materially across various segments of CRTs. For example, Dr. Leitzinger's hedonic regressions show that the price premiums of larger CPTs over smaller CPTs changed substantially over time, which indicates that heterogeneous market forces determined the prices of CPTs of different sizes.

87. To analyze whether the average price differences between CRTs of different sizes varied over time, I implemented Dr. Leitzinger's hedonic regression model on his data. The hedonic analysis estimates for each quarter the price premium commanded by larger CRTs over smaller CRTs (holding constant other factors included in the regression). I then compared the price premiums commanded by larger CRTs across calendar quarters to see if they changed significantly – a step not taken by Dr. Leitzinger.

88. Specifically, I estimated separate regressions for each quarter (as Dr. Leitzinger does), and I recorded for each quarter for which data were available the relative prices estimated by the model for the most popular CPT sizes.⁶⁹ I then compared the estimated

⁶⁸ Leitzinger Deposition, pp. 200-201.

⁶⁹ I have examined 14, 20, 21, 29 and 34-inch CPTs, and 14, 15, 17 and 19-inch CDTs which are the application-size combinations that account for the largest number of observations (at least 9% each) in their respective applications (CDT/CPT) during the analysis period.

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average price of the largest CPT with the estimated prices of smaller CPTs in each quarter holding other CPT characteristics constant. The results are presented in Exhibit 5. They show substantial variation in the price premium commanded by the largest CPTs over smaller CPTs during the class period, even after controlling for all the characteristics that Dr. Leitzinger controls for. For example, the blue line in Exhibit 5 shows that in 2003, 34-inch CPTs were priced 834% above 14-inch CPTs (on average) based on Dr. Leitzinger's hedonic regressions but, by 2007, this premium had decreased to 533%. All year-over-year changes in the CPT 34-inch vs. 14-inch premiums (with the only exception of 2002 to 2003) were statistically significantly different from zero at the 5% level. More generally, more than 80% of all year-over-year changes in the price premiums commanded by larger CPTs were statistically significantly different from zero at the 5% level.⁷⁰ I performed a similar analysis for CDTs and found similar results.⁷¹

89. The substantial variation in relative prices of CRTs over time is strong evidence that market conditions differed materially across CRTs. If different segments of CRTs were subject to different market forces, then it would be incorrect to assume that the alleged cartel had a class-wide impact on all CRT segments. Later in this report, I explain that further evidence of differentiated market forces and differentiated cartel impacts is found in Dr. Leitzinger's own CRT overcharge model and data which show that the alleged cartel had no impact on several large categories of CRTs.

90. In addition to the variability over time of relative prices across different size categories of CRTs, the relative prices of CRTs also were far from uniform across

⁷⁰ This conclusion was reached by estimating a single regression for two consecutive years and testing the hypothesis that the size premium has changed. The vast majority of year-over-year changes (80% or more) remain significant under several alternative specifications: weighting the regressions by transaction quantity, controlling for the differences in exchange rates between the transactions, removing horizontal transfers, and dropping potential outlier observations (those with the top and bottom 2.5% of prices for each application/size in each quarter).

⁷¹ For CDTs, I analyzed year-to-year changes of 19-inch vs. 14-inch premiums, 19-inch vs. 15-inch premiums, and 19-inch vs. 17-inch premiums. I found that more than 90% of year-to-year changes in premiums were statistically significant. The high incidence of significant year-to-year changes is robust to the specification variations described in the previous footnote.

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manufacturers, i.e., price differentials across manufacturers varied over time. For example Exhibit 6 shows that the average price premium for Panasonic/MTPD CPTs relative to SDI CPTs (controlling for other factors included in the hedonic regression)⁷² ranged from about 64% in 1999 to about zero by 2006. In all but one case (2006 to 2007), the annual changes in the Panasonic/MTPD vs. SDI CPT price premiums were statistically significantly different from zero at the 5% level.⁷³

91. These variations make it less likely that the alleged cartel was effective in raising prices of CRTs class-wide. Based on the putative target prices identified by Dr. Leitzinger, the alleged cartel did not set target prices for every type of CRT in most quarters. Dr. Leitzinger provides no explanation of how the alleged cartel members, in the face of relative prices that varied widely across manufacturers and over time, would have reached a common understanding about what price to charge for each CRT absent a complete set of explicit target prices. Without such a common understanding, it is unlikely that the alleged cartel would have been consistently effective in elevating CRT prices on a class-wide basis.

92. Finally, Dr. Leitzinger is mistaken in his view that the high R-squared statistics of his hedonic regressions are evidence that CRT prices were determined mostly by a few observable product characteristics, the identities of sellers, and transaction size.⁷⁴ A relatively high R-squared in a hedonic regression is entirely consistent with both (a) individual factors having an important role in determining prices; and (b) his hedonic regressions being unable to reliably predict prices of individual CRTs.

⁷² I used Panasonic/MTPD and SDI in this analysis because these manufacturers accounted for the largest share of CRT sales for which data were produced in the instant matter. Moreover, I analyzed primarily CPTs because relatively little data were available on Panasonic/MTPD CDT sales after 2001.

⁷³ This conclusion was reached by estimating a single regression for two consecutive years and testing the hypothesis that the manufacturer price premium changed. The high incidence of significant year-to-year changes is robust to the specification variations described in *supra* note 70. Large year-over-year changes in this premium are also evident for CDTs.

⁷⁴ Leitzinger Report, ¶ 34 (“I find that almost all of the observed pricing variability is related to these non-conspiracy factors [included in his hedonic regressions].”)

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93. To illustrate the fallacy of relying on a high R-squared statistic as Dr. Leitzinger does in this context, consider a regression that tries to predict the prices of cars and bicycles based on the number of wheels. Such a regression would likely have a very high R-squared statistic, *i.e.*, the number of wheels would predict a high proportion of the variations in the prices simply because cars are priced much higher than bicycles on average. However, this regression would not reliably predict the price of an individual bicycle or car, and one would not conclude from the high R-squared statistic that similar market forces determine prices of cars and bicycles. Similarly, Dr. Leitzinger obtains a high R-squared statistic because CRT prices are highly correlated with CRT size (for instance), but that does not imply that his analysis is able to reliably estimate the prices of individual CRTs of a given size. There were other influences not captured in his model that materially affected prices.

94. To further illustrate the material variation in CRT prices not captured by hedonic regressions, recall that several “target price” documents cited by Dr. Leitzinger indicate that alleged conspirators considered price differentials between manufacturers of 5% or less to be enough to shift sales and shares.⁷⁵ Thus, if it were true that Dr. Leitzinger’s hedonic regressions leave no material price variation unexplained, then the gap between the prices predicted by these regressions and the actual prices should rarely exceed 5%. In fact, I found the opposite: very rarely are the prices predicted by Dr. Leitzinger’s regressions within 5% of the actual prices charged for specific CDTs as seen in Exhibit 7A. In all but four quarters, the (absolute) difference between actual observed CDT prices and prices predicted by Dr. Leitzinger’s hedonic regressions exceeded 5% for more than 40% of observations. For CPTs, the prediction error exceeded 5% in all but four quarters for more than 33% of observations. (See Exhibit 7B.)⁷⁶

⁷⁵ See *supra* note 54.

⁷⁶ The gap between actual CRT prices and prices predicted by Dr. Leitzinger’s hedonic regressions is substantial. For the top quartile of the observations, the (absolute value of the) mean gap is 11.2% for CDTs and 12.4% for CPTs.

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95. I thus conclude that a material amount of CRT price variation arises from factors not included in the hedonic regressions. Some of this remaining variation in CRT prices may well have been due to inconsistent impacts of the alleged cartel. At a minimum, Dr. Leitzinger's hedonic regressions do not rule out this possibility.⁷⁷

IV. There Is No Evidence of a “Price Structure.”

A. No Evidence of a “Structure” to Prices of CRTs and CRT Finished Products

96. Dr. Leitzinger claims that CRT prices exhibited a “structure” such that prices of various categories of CRTs were linked economically and thus moved together.⁷⁸ Dr. Leitzinger primarily relies on a price correlation analysis to support his claim that a price structure existed for CRTs. For example, in Figure 9 of his report, Dr. Leitzinger presents an analysis that appears to demonstrate a high degree of correlation (co-movement) in average prices of CRT categories that he claims were directly targeted by the alleged cartel and average prices of CRT categories that potentially were not targeted.

97. I demonstrate in this section that Dr. Leitzinger's claim that a CRT price structure existed is unsupported by his price correlation analyses and more generally by the evidence on record. In fact, as explained earlier, Dr. Leitzinger's own hedonic regressions show substantial variation over time in the relative prices of CRTs of different sizes, which is evidence that different market conditions prevailed in various segments of CRTs and undermines Dr. Leitzinger's claim that a price structure existed for CRTs.

98. Before explaining the flaws in Dr. Leitzinger's correlation analyses, I first describe in this section the salient features of the CRT marketplace, the enormous heterogeneity in

⁷⁷ This conclusion is left unaltered under the following alternative specifications: weighting the regression by transaction quantity (59% and 57%), controlling for the differences in exchange rates (57% and 51%), removing horizontal transfers (60% and 53%), and dropping potential outlier observations with the top and bottom 2.5% of prices for each application/size in each quarter (56% and 51%). (The percentages in parentheses are the percentage of CDT and CPT observations, respectively, that deviate from predicted prices by 5% or more over the entire period.)

⁷⁸ Leitzinger Report, § VI B.

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CRTs and CRT finished products, and the differentiation in the market forces to which various CRTs and CRT finished products were subjected. In view of this diversity, it is not surprising that CRT pricing dynamics do not exhibit anything like the structure that Dr. Leitzinger claims.

Widely Differentiated CRTs and CRT Finished Products Resulted in Widely Different Dynamics for Their Prices.

99. CRTs were widely differentiated along many dimensions. For example, I understand that CPTs were used exclusively in televisions, whereas CDTs were used predominantly in desktop computer monitors and were not used in televisions. The two were not substitutes from the standpoint of manufacturers of monitors and TVs (i.e., customers of CRT manufacturers) because of differences in resolution, electrical current tolerances and brightness.^{79, 80} CPTs and CDTs were each further differentiated along a variety of dimensions. For example, CPT pricing depended on CPT size, shape (curved or flat), and

⁷⁹ I understand that CPTs and CDTs are characterized by several different properties. A key product feature of CPTs is high brightness, while CDTs are characterized by high resolution. The two CRT types also exhibit different mask and phosphor structures. (SDCRT-0021278-SDCRT-0021294 at 1288). Additionally, there is a tradeoff between the two products with regard to resolution and the power the CRT is able to withstand. CDTs are not able to withstand the current of a television due to their thin masks, which are needed to produce a high resolution, while CPTs do not have a high enough resolution to be used in monitors but are able to withstand a higher current than CDTs. (Tobinaga (Panasonic, MTPD) Deposition, p. 143.) The evidence related to supply-side substitution is mixed. CRT production lines could be converted from producing CPTs to CDTs and vice versa. However, this change required time and effort. Most production lines produced a single application exclusively. For example, SDI's CPT and CDT production was, for the most part, "completely separated," the exception being small sizes. (Lee (SDI) Deposition, pp. 113-114, 121-122.)

⁸⁰ At his deposition, Dr. Leitzinger agreed that a TV manufacturer would not consider a CDT to be a good substitute for a CPT when making televisions and that a monitor manufacturer would not consider a CPT to be good substitute for a CDT when making monitors. (Leitzinger Deposition, pp. 68-69.)

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the type of “mask”⁸¹ included in the CPT. Similarly, CDT pricing depended on CDT size, shape, frequency,⁸² and glare.⁸³

100. A particular CRT model was not easily interchangeable with other CRT models, even those that may have shared similar basic features. Each CRT model was designed to fit the specific technical requirements of a particular finished product requested by a customer. For example, the connection points between the CRT and the external casing were specific to a given customer’s finished product design. Other features that were specific to a CRT destined for a particular finished product included the electrical components of the CRT.⁸⁴ Such customization limited the ability of a finished product manufacturer to interchange different CRT models for a given finished product. For example, according to a Philips witness, customers could not always interchange a Philips CRT for another manufacturer’s CRT without significant modifications to the finished product.⁸⁵ An SDI witness testified that customers would take up to a year to qualify new suppliers of CRTs.⁸⁶

⁸¹ The “shadow mask” is a finely perforated screen that ensures that an electron beam strikes the correct phosphor dot. “In a colour picture tube, it is absolutely necessary to ensure that each of the three electron beams strikes only one phosphor in each triad. For this purpose, a mask, called a shadow mask or an aperture mask, is inserted between the neck of the picture tube and the phosphor dot screen.” (Bali, S. P. (1994). *Colour Television: Theory and Practice*. Delhi: Tata McGraw-Hill Publishing Company Limited. p. 83)

⁸² The “frequency,” also called the refresh rate, is the number of times per second the image on a display device is refreshed or restroked on the screen. (Graf, R. F. (1999). *Modern Dictionary of Electronics, 7th Edition*. Woburn, MA: Butterworth-Heinemann.)

⁸³ Lee (SDI) Deposition, pp. 38, 101; Deposition of Hirokazu Nishiyama, July 17-18, 2012 (“Nishiyama (Panasonic, MTPD) Deposition”), pp. 73-75, 144-145; Kurosawa (Toshiba Corp.) Deposition, pp. 93-94, 98-99.

⁸⁴ Tobinaga (Panasonic, MTPD) Deposition, p. 142; Deposition of Toru Iwasawa, July 11, 2012 (“Iwasawa (Hitachi) Deposition”), pp. 29-30.

⁸⁵ Deposition of Roger de Moor, July 31 - August 1, 2012 (“de Moor (PENAC) Deposition”), pp. 141-143.

⁸⁶ Lee (SDI) Deposition, p. 213.

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101. In addition, some CRTs were sold by manufacturers such as Toshiba that were vertically integrated for at least part of the class period (i.e., the CRT manufacturer was affiliated with a downstream manufacturer of CRT TVs and/or CRT monitors), while other CRTs were supplied by CRT manufacturers such as Chunghwa that were not integrated.⁸⁷

102. Exhibit 8A illustrates the substantial amount of dispersion in each quarter during the class period in the CRT prices charged by the nine manufacturers that have produced CRT sales data in the instant matter.⁸⁸ Taking Q3 2001 as an illustrative example, 10% of CRT prices that quarter were below \$39 and 10% were above \$221 (i.e., more than 5x higher). Substantial price variation can be observed in Exhibit 8A for other quarters. This price variation was due to differences in product and customer characteristics.⁸⁹ Similarly, Exhibit 8B shows that CRT finished product prices also exhibited substantial dispersion. The exhibit shows the dispersion in prices charged for CRT TVs and monitors by seven finished products manufacturers.⁹⁰ As seen in the exhibit, there is considerable

⁸⁷ I understand that the following CRT manufacturers were majority-owned by a corporate parent that also owned a majority share of a finished-product manufacturer: Hitachi, LG (prior to July 2001), Philips (prior to July 2001), Panasonic (prior to 2003), Toshiba (prior to 2003), and MTPD (starting in 2003). Chunghwa, LPD (starting in July 2001), and SDI were not.

⁸⁸ Eight manufacturers produced CRT sales data in the instant matter: Chunghwa, Hitachi, LG, LPD, MTPD, Panasonic, SDI and Toshiba. Additionally, LPD produced data from Philips' legacy CRT business that it acquired in July 2001. Unless otherwise noted, analyses presented in this report that pertain to CRT prices are based on the sales data from these nine sources.

⁸⁹ Each observation in Exhibit 8A represents the average price at which a specific CRT model was sold to a specific customer in a specific quarter. Weighting observations by sales volume does not alter my conclusion that CRT prices in any given quarter exhibited substantial heterogeneity. For example, on average, the 90th percentile of the sales-volume-weighted distribution of CRT prices in a given quarter were 66% higher than the weighted average CRT price for that quarter, and the 10th percentile of the distribution was 54% below the average price. Put differently, on average, the 90th percentile of the sales-volume-weighted distribution of CRT prices in a given quarter was over 3 times as expensive as the 10th percentile.

⁹⁰ The seven finished products manufacturers are: Hitachi, LG, Panasonic, Philips, SEA, Tatung, and Toshiba. Dr. Leitzinger relied on data from these seven manufacturers.

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variation in finished product prices – both within and across manufacturers.⁹¹ This variation is due to the variety of TVs and monitors offered by each CRT finished product manufacturer in a given quarter, changes in that mix over time, and differences across finished products manufacturers.

103. Prices of the various CRTs and CRT finished products also *changed* in heterogeneous ways. As illustrated in Exhibit 9A, quarter-to-quarter changes in CRT prices varied substantially in their direction and magnitude. In nearly every quarter during the class period, the quarter-to-quarter price changes of CRTs ranged from increases of more than 10% to decreases of more than 15%. Prices frequently moved in opposite directions. For example, between Q2 2002 and Q3 2002, almost 17% of CRT prices (quantity weighted) declined by at least 5%,⁹² while about 21% of CRT prices increased and another 8% did not change.⁹³

104. Similarly, Exhibit 9B shows the substantial variation in any given quarter in changes in CRT *finished product* prices at the seven finished products manufacturers whose data are utilized by Dr. Leitzinger. For example, between Q3 2005 and Q4 2005,

⁹¹ Each observation in Exhibit 8B represents the average price at which a specific CRT finished product model was sold to a specific customer in a specific quarter. Weighting observations by sales volume does not alter my conclusion that CRT finished product prices in any given quarter exhibited substantial heterogeneity. For example, on average, the 90th percentile of the sales-volume-weighted distribution of CRT monitor and TV prices in a given quarter was 84% higher than the weighted average CRT monitor and TV price for that quarter, and the 10th percentile of the distribution was 54% below the average price. Put differently, on average, the 90th percentile of the sales-volume-weighted distribution of CRT monitors and TVs in a given quarter was roughly 4 times as expensive as the 10th percentile. Thus, it is clear that a substantial *volume* of CRT monitor and TV prices were widely dispersed

⁹² Five percent is a material change for a single quarter. For context, average CPT and CDT prices respectively declined by 2% and 3% per quarter during the class period, which was enough to produce a cumulative decline of nearly 63% and 82% in average CPT and CDT prices, respectively, over the course of the class period. (Here, changes in “average” CPT and CDT prices refer to changes in the Fisher Price Indices of each, as illustrated in Exhibit 13.)

⁹³ In roughly half of the quarters during the class period, at least 19% of CRT prices declined (quarter-over-quarter) by 5% or more while at least 10% of CRT prices increased or remained unchanged during the same period.

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15% of CRT finished product wholesale prices declined by at least 2%, while about 55% of finished product prices increased or did not change for all manufacturers.⁹⁴

105. Further evidence of divergent CRT price changes is provided in Exhibit 10A, which shows that changes in the *average* price of CDTs provided an extremely poor prediction of contemporaneous changes in CPT prices and vice versa. For example, in the quarters that experienced the largest changes in the average CDT price during the class period, 28% of CPT prices either changed in the opposite direction or did not change at all.⁹⁵ (See Exhibit 10A.)⁹⁶

⁹⁴ This was not atypical. In 24 of the 51 pairs of consecutive quarters in the class period, at least 15% of CRT finished-product prices declined (quarter-over-quarter) by 2% or more while at least 50% of TV and monitor prices increased or did not change. (These estimates are based on sales prices of all CRT finished-products sold by the finished product manufacturers identified in the notes to Exhibit 9B.)

⁹⁵ I implemented this test as follows: I first identified quarters that experienced the largest quarter-to-quarter changes in global CDT average prices (as measured by the CDT Fisher Price Index) during the class period. Specifically, I identified the 25% of quarters that saw the largest changes in the CDT Fisher Price Index. (During these quarters, the CDT Fisher Index changed by at least 6% per quarter.) For each of these quarters, I assessed the fraction of CPT prices that changed in the opposite direction and the fraction of prices that did not change during the same time period. (A CPT “price” was defined as the quarterly weighted average price paid by a particular customer for a particular CPT model.) I then averaged the results across the quarters in the sample using quarterly CPT sales volumes as weights. This methodology is described in the notes to Exhibit 10A.

⁹⁶ The metric of co-movement in CRT prices I employ in Exhibit 10A and in Exhibit 10B almost surely overstates the extent to which a hypothetical overcharge in one CRT category would cause prices in the other CRT category also to be higher. In my analysis, which tracks changes in prices over time, inter-temporal shocks that directly affect all CRT prices are likely to cause prices to move in the same direction for reasons that have nothing to do with demand-side or supply-side substitution. For example, the price of natural gas likely affects the cost of manufacturing glass of all types, and hence the prices of flat glass panes used in windows of buildings may be correlated with the prices of CRTs, which also use glass. However, such a correlation does not imply that if a cartel increased the price of either CRTs or flat glass panes that it would necessarily result in an increase in the price of the other. Any co-movement caused by inter-temporal market-wide shocks that directly affect all CRT prices has no bearing on whether a hypothetical overcharge in one product category would cause prices for the other product category also to be higher, because a hypothetical overcharge does not involve an

(footnote continued ...)

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106. Moreover, quarter-to-quarter price changes varied widely across different-sized CPTs. For example, in the quarters that experienced the greatest changes in the average price for *small* CPTs, 33% of *large* CPT prices either changed in the opposite direction or did not change at all.⁹⁷ (See Exhibit 10A.) The diversity of price movements depicted in Exhibit 10A shows that different market forces affected large and small CPTs or the same forces affected them differently. In view of this, any hypothesized evidence that the alleged cartel succeeded in elevating the price of small CPTs would not necessarily imply that prices were also elevated for large CPTs (and vice versa).^{98, 99}

(... footnote continued)

increase in price over time, but rather an increase in price relative to a counterfactual but-for world *at the same point in time*.

⁹⁷ “Small” CPTs are defined as CPTs that are smaller than 20 inches in diagonal length. “Medium” CPTs are defined as CPTs between 20 and 29 inches in diagonal length. Large CPTs are defined as CPTs that are at least 30 inches.

⁹⁸ Often CRT prices were negotiated in currencies other than the USD. Nonetheless, the USD is the proper currency for analyzing price variation because the target prices that Dr. Leitzinger alleges that the putative cartel used to fix prices were denominated in U.S. dollars. (Leitzinger Report, ¶¶ 5-6.) If the same market forces applied to all CRTs, one would expect USD price changes to be similar across all CRTs even if some prices were negotiated in foreign currencies. This is true even in the presence of exchange rate movements. Nonetheless, in order to further confirm my findings, I have also examined the extent of heterogeneity in changes in negotiated prices (*i.e.*, prices expressed in the currency in which they were negotiated). The results of these analyses clearly illustrate that even when prices are expressed in the currencies in which they were negotiated, price changes exhibited a substantial amount of heterogeneity across CRTs, with many prices increasing and many other prices decreasing in the same quarter. For example, in the 25% quarters that experienced the largest changes in the average CDT price during the class period, 29% of CPT prices either changed in the opposite direction or did not change at all when prices are expressed in the negotiated currency. Also, in the 25% of quarters that experienced the greatest changes in the average price for *small* CPTs, 32% of *large* CPT prices either changed in the opposite direction or did not change at all when prices are expressed in the negotiated currency.

⁹⁹ In order to further investigate divergent CRT price movements illustrated in Exhibit 10A, I have compared the differences in quarterly price changes among the CRTs whose prices increased the most with price changes among the CRTs whose prices decreased the most. For example, for the 25% of quarters with the greatest (absolute) changes in the average price of CDTs, the average difference between (a) the mean change in prices of CDTs in the top quintile of price changes and (b) the mean change in prices of CDTs in the bottom quintile of price

(footnote continued ...)

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107. Similar results obtain for prices of CRT finished products as shown in Exhibit 10B. For example, in the quarters that experienced the greatest changes in average CRT TV prices across finished product manufacturers, 38% of CRT monitor prices at the same finished product manufacturers changed in the opposite direction or remained unchanged.

108. This kind of variation in price movements makes proving antitrust impact on all direct purchasers in the U.S. based on a “price structure” theory implausible. By way of an example (noted above), between Q2 2002 and Q3 2002, almost 17% of CRT prices declined by at least 5%, while about 21% of CRT prices increased during the same quarter. Suppose, hypothetically, that the evidence indicated that collusion affected the pricing of those CRTs whose prices increased from Q2 2002 to Q3 2002. None of the analyses in Dr. Leitzinger’s report demonstrate that proof of cartel impact on CRTs whose prices increased from Q2 2002 to Q3 2002 can somehow also serve as common proof of antitrust impact with regard to CRTs whose prices actually declined during the same period.

109. The heterogeneous price dynamics of CRTs and CRT finished products likely were the result of differentiated features of these products and more importantly the result of substantially different market forces that influenced the prices of different CRT product segments at various points during the class period. From 2000 onward, fierce competition from LCD and plasma display technologies rapidly shrank the CRT share of the display market. This development affected certain types of CRTs more than others. I turn to this next.

(... footnote continued)

changes was 14 percentage points. This is a substantial difference given that the median change in prices of CRTs in all quarters was just -2.1%. Similar results are obtained for other CRT categories analyzed in Exhibit 10A.

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Substantially Different Market Forces, Such as Competition from LCD and Plasma Technologies, Influenced CRT and CRT Finished Product Prices Differently during the Alleged Class Period.

110. CRT finished products' shares of desktop monitors and TVs sold globally began to decline around 2000. Exhibit 11A shows that CRT desktop monitors accounted for 91% of global desktop monitor sales in early 2001 but only 10% of such sales by the end of 2007. CRT TVs' share of global TV sales also declined during this time period, albeit more slowly: CRT TVs accounted for nearly 100% of global TV sales in early 2001 but only 48% by the end of 2007.¹⁰⁰ During this time, CRT TVs' share of North America TV sales declined more than in much of the rest of the world.¹⁰¹

111. The decline in CRT finished-products' share of global TV and monitor sales was a result of competition from LCD and plasma technologies,¹⁰² and the share trends evident

¹⁰⁰ I exclude rear-projection CRT TVs from my analyses since I understand that they are not part of the instant litigation.

¹⁰¹ For example, by the end of 2007, CRT TVs' share of TV sales in North America had shrunk to 14% compared to a global share of 48%. (Exhibits 11A and 11B)

¹⁰² Contemporaneous documents refer to the displacement of CRTs by LCDs and plasma as the following examples illustrate:

- "As LCD prices fall CRTs will lose share;" "CRTs are boxy, heavy, thick and consume more power than competing technologies;" "Consumers [sic] belief that digital/HDTVs require non-CRT solution and that the CRT [sic] forma [sic] factory is old fashioned." (TAEC00006084. Shulklapper, Andrew. DisplaySearch HDTV Forum 2004: Accelerating the HDTV Transition, August 24-26, p. 11. See also pp. 4-17.)
- "The PC monitor market is going through some significant changes as the transition from cathode-ray tubes (CRTs) to LCDs begins to hit with full force. Worldwide revenue for LCD monitors will outpace CRT revenue in 2003, and the crossover for worldwide unit shipments will occur in 2004." (TAEC00006176. Gallo, J. and O'Donnell, B. "Worldwide PC Monitor Forecast and Analysis, 2002-2007: Looking Ahead", IDC, May 2003 at p.1. See also pp. 6, 8-32.)

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in Exhibit 11A and Exhibit 11B show that the new technologies impacted CRT monitors earlier and to a greater extent than CRT TVs.¹⁰³

112. LCD and plasma competition impacted large CRT TV sales earlier and more significantly than sales of small and medium CRT TVs. As is evident in Exhibit 12A, the global penetration of large CRT TVs¹⁰⁴ (relative to other technologies) shrank from 78% in 2001 to just 11% by late 2007, while the penetration of small and medium CRT TVs declined by less – from nearly 100% to about 78% during the same period.¹⁰⁵

113. Given the differential impact of LCD and plasma competition on various segments of CRTs, it would not be surprising to find very different dynamic price patterns for various segments of CRTs. Consistent with this view, my analyses of CRT pricing data demonstrate that global prices of CDTs typically fell more and earlier than prices of CPTs. Moreover, global prices of large CPTs fell more than for small and medium CPTs, and global prices of flat CPTs (which were closer substitutes for LCD and plasma TVs¹⁰⁶) declined more than prices of curved CPTs during much of the relevant period.

¹⁰³ Contemporaneous documents also acknowledge the differential impact of LCD competition on monitors and TVs. See, e.g., PHLP-CRT-049353(February 2004 presentation) which notes that “LCD technology development has exceeded all expectations” and that “CRT monitors are more severely affected by LCD demand” (p.3).

¹⁰⁴ For the purpose of my analyses, “large” CRT TVs are defined to be TVs that are at least 30 inches in viewable size.

¹⁰⁵ CRT TVs fared poorly among large TVs sold in North America, declining from 66% in early 2001 to just 5% by late 2007, while CRT TVs’ share of small and mid-sized TVs fell from almost 100% in early 2001 to 38% by late 2007. See Exhibit 12B.

¹⁰⁶ See, e.g., “To compete with the flat panels, the CPT makers and TV OEMs are boosting production of flat-face CRTs.” (iSuppli, “Flat-Panel Sets Gain Strong Footing in TV Market”, Television Systems, Market Tracker – Q1 2006, CHU00154658 – CHU00154694 at CHU00154673.)

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114. The different trends in prices of CDTs and CPTs are illustrated in Exhibit 13. The chart tracks average prices (measured using chained Fisher Indices^{107, 108}) of CPTs and CDTs sold globally during the class period. As illustrated in Exhibit 13, the average prices of CDTs and CPTs fell during much of the period, but the average price of CDTs declined more than the average price of CPTs. This is consistent with the view that CDTs faced greater competition from LCDs than did CPTs.

115. In addition to the differences in price dynamics between CPTs and CDTs, various categories of CPTs also exhibited differentiated price dynamics. For example, prices of larger CPTs exhibited different trends than prices of smaller CPTs. Specifically, the Fisher Price Index for larger CPTs declined more rapidly than the Fisher Price Indices for small and mid-sized CPTs during the relevant period. This pattern is illustrated in Exhibit 14. Moreover, as explained before, their quarter-to-quarter changes demonstrate highly differentiated pricing patterns. (See Exhibit 14.)

116. Prices of flat CPTs declined more rapidly than prices of curved CPTs, which is unsurprising since flat TVs were likely to be closer substitutes for LCDs and plasma TVs

¹⁰⁷ The quarter-to-quarter change in the Fisher Price Index for CPTs (for example) represents an average of the price changes for CPT models sold to the same customer in both quarters. The price changes across quarters 1 and 2 are averaged in two ways – once using the quarter 1 sales volumes as weights and once using the quarter 2 sales volumes as weights. The change in the Fisher Price Index represents the geometric mean of the two average price changes.

¹⁰⁸ Fisher Indices (or more precisely, chained Fisher Indices of the type I employ) are an accurate way to track changes in average prices of CRTs over time because they remove the effect of changes in product mixes from price trends. (Diewert, W. E. (1993). The Early History of Price Index Research & Fisher Ideal Output, Input and Productivity Indexes Revisited. In W.E. Diewert and A.O. Nakamura (Eds.), *Essays in Index Number Theory, Volume I*, Elsevier Science Publishers. pp. 58, 320-330; International Labour Organization. (2004). *Consumer Price Index Manual: Theory and Practice*. International Labour Organization. pp. 6-32.) This is important because the mix of CRTs changed substantially during the class period, with the advent of higher-quality flat, wide-screened, high resolution CRTs that were introduced in response to LCD and plasma competition. Since these high-quality CRTs were priced higher than lower quality CRTs, ignoring the improvement in product quality over time would mask declines in prices for CRTs of similar quality, and hence I remove the effects of changes in product mix by using Fisher Indices.

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than CRT TVs with curved screens.¹⁰⁹ Exhibit 15 shows the Fisher Index of global prices of flat CPTs declining more than the prices of curved CPTs for much of the period since September 2000.

117. In sum, competition from newly emergent LCD and plasma technologies affected different categories of CRTs differentially, and this differentiated impact is evident in the differentiated patterns of CRT pricing.

Conduct Directed at CRT Prices Outside the United States Need Not Have Elevated CRT Market Prices in the United States.

118. In addition to the differentiated price dynamics across product categories, there is substantial evidence of diverse price dynamics across geographic regions. This is another source of differentiation in CRT price dynamics, particularly in CPTs, that is especially relevant here because although U.S.-based Plaintiffs allege a global CRT cartel, most CPTs used in TVs sold in the U.S. were sold or manufactured in North America.¹¹⁰

119. The documents that Dr. Leitzinger relies on to identify CRT “target prices” set by the putative cartel rarely refer to the U.S. or North America.¹¹¹ If, in fact, the alleged

¹⁰⁹ See, e.g., “To compete with the flat panels, the CPT makers and TV OEMs are boosting production of flat-face CRTs.” (iSuppli, “Flat-Panel Sets Gain Strong Footing in TV Market,” Television Systems, Market Tracker – Q1 2006, CHU00154658 – CHU00154694 at CHU00154673.)

¹¹⁰ CPT imports into North America were limited. (Heinecke (TAEC) Deposition, p. 64; Lee (SDI) Deposition, pp. 133-134, 179-180; Deposition of Michael Son, February 5-6, 2013 (“Son (SDI) Deposition”), p. 193.) Moreover, most TVs sold in the U.S. were likely manufactured in North America. (Tobinaga (Panasonic, MTPD) Deposition, p. 57; Deposition of Steve Panosian, July 17, 2012 (“Panosian (SEC, SEA) Deposition”), p. 22; Deposition of Edwin Wolff, July 18, 2012 (“Wolff (PNA) Deposition”), pp. 49-50.)

¹¹¹ Of the 164 documents relied upon by Dr. Leitzinger to identify “target prices,” only a handful refer to North America/U.S. and they typically do not stipulate a target price that is applicable to North America/U.S. (Backup to Leitzinger Report, “Target Prices_part1.csv,” “Target Prices_part1.csv,” and “Target Prices_part3.csv”; see e.g., Visitation Report, CHU00029138-CHU00029143 at CHU00029140, March 25, 2000; Visitation Report, CHU00029171-CHU00029174 at CHU00029172, October 27, 1999; Marketing Visitation Report, CHU00030020-CHU00030025 at CHU00030022, June 18, 2004; Market Visitation

(footnote continued ...)

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cartel typically set target prices with no reference to the U.S. or North America, and if U.S./North American CRT prices and market conditions were materially different from the rest of the world, then members of the DPP class that purchased finished products made using CRTs manufactured in the U.S. or North America potentially may have been unharmed even if the alleged cartel successfully elevated prices of CRTs in the rest of the world.

120. Market conditions for CPTs in North America were indeed different from those in the rest of the world. LCD and plasma technologies penetrated the U.S. market earlier and faster than many other parts of the world. For example, by late 2007 CRT TVs' share of TV sales in North America had shrunk to 14% compared to a global CRT TV share of 48%.¹¹² CRT demand started to decline in North America and in other advanced economies even as demand grew in other regions.¹¹³ Greater competition from LCDs in the U.S. likely would have reduced the impact of the putative cartel in the U.S. relative to the rest of the world. Moreover, the mix of products sold in North America was not the same as in other regions. For instance, CPTs sold in North America were far more likely to be larger than CPTs sold for use in other regions. About 19% of CPTs sold in North America between Q1 1995 and Q4 2007 had a screen size of at least 30 inches but only about 4% of CPTs sold in other regions in the same period were that large.¹¹⁴

121. A significant difference between CDTs and CPTs is that, while few CDTs were produced or sold in North America (most of the monitor production was in Asia), a substantial fraction of CPTs used in TVs sold in the U.S. was either sold or manufactured

(... footnote continued)

Report, CHU00030071-CHU00030078 at CHU00030078, November 7, 2003; Visitation Report, CHU00029262-CHU00029264 at CHU00029264, September 26, 1998.)

¹¹² See Exhibits 11A and 11B.

¹¹³ MTPD-0300203.ppt, at slides 8, 9, 10, and 16.

¹¹⁴ These figures were calculated by identifying observations with a North American (U.S., Canada, or Mexico) or foreign address within Dr. Leitzinger's CRT sales data set.

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in North America.¹¹⁵ Prices of CPTs sold in North America by at least some CRT manufacturers were primarily determined by their North American divisions, i.e., they were not set by global head offices.¹¹⁶

122. Given these facts, it would not be surprising if CPT prices in the U.S. and North America were different from the rest of the world. Indeed, prices of CPTs sold in North America had substantially different patterns of changes than prices of CPTs sold in the rest of the world. Specifically, in the quarters that experienced the greatest changes in average CPT prices sold outside North America, 39% of CPT prices in North America either changed in the opposite direction or did not change at all. See Exhibit 16.

B. Dr. Leitzinger's Price Correlation Analyses Do Not Establish Common Impact, and They Mask the True Heterogeneity in Price Changes.

123. In light of the diverse patterns of price movements among different CRTs, CRT finished products, and regions, it is highly implausible that evidence that is common across the class could prove that most of the members of the proposed class were impacted by the alleged collusion over the pricing of CRTs. Rather, many individualized inquiries would be necessary to assess whether the observed prices are higher than they would have been absent the alleged collusion for the many different CRTs and CRT finished products with diverse patterns of price movements over time.

124. Despite the substantial variation in product and other characteristics affecting CRT prices and the clarity of the data regarding the wide dispersion in CRT price levels and changes, Dr. Leitzinger claims that CRT prices exhibited a "structure."¹¹⁷ This is important to his argument because Dr. Leitzinger acknowledges that he has not been able

¹¹⁵ See *supra* note 110.

¹¹⁶ For example, SDI's Jaemin Lee testified that SDI allowed its regional staff to take the lead in making pricing decisions because market conditions differed greatly across regions (although regional representatives would consult the head office staff for unusually large price changes). (Lee (SDI) Deposition, pp. 185-187, 189).

¹¹⁷ Leitzinger Report, ¶ 50.

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to identify evidence that all categories of CRTs were targeted by the alleged cartel,¹¹⁸ and in fact, as explained above, the alleged target prices that Dr. Leitzinger has identified were applicable to only a small fraction of CRTs sold during the class period. Thus, Dr. Leitzinger depends on the alleged “price structure” to support his assertion that even the prices of CRTs that were potentially not targeted by the alleged cartel were nonetheless affected by the cartel’s target price-setting process because the prices of all CRTs were linked by the purported “price structure.” However, Dr. Leitzinger provides neither a coherent economic explanation for the existence of a price structure among CRTs, nor a plausible data analysis to support his opinion.

125. The only explanation provided by Dr. Leitzinger in his report for how prices of CRTs of different types were linked such that the alleged cartel had a class-wide impact makes little sense as a matter of economic logic or common sense. Dr. Leitzinger contends that CRTs were linked by supply-side substitution, such that, for example, the same production lines could manufacture CDTs as well as CPTs.¹¹⁹ He implies that supply-side substitution would prevent prices and price-cost margins of some CRTs from increasing without affecting the prices of other CRTs, because CRT manufacturers would re-allocate capacity from low-margin CRTs to high-margin CRTs, thereby reducing the supply of low-margin CRTs and increasing their prices and margins. In Dr. Leitzinger’s view, this capacity re-allocation process would ensure that prices of all CRTs would move in the same direction.¹²⁰

¹¹⁸ Leitzinger Report, ¶ 45.

¹¹⁹ Leitzinger Report, ¶¶ 46-7. As explained in *supra* note 79, the evidence on supply-side substitution is mixed. Additionally, as explained above, CRT buyers’ ability to substitute across different applications of CRTs was often limited. The two were not substitutes from the standpoint of manufacturers of monitors and TVs because of differences in resolution, electrical current tolerances and brightness (see *supra* note 79). At his deposition, Dr. Leitzinger agreed that finished product manufacturers would not use CDTs when making TVs or CPTs when making computer monitors. (Leitzinger Deposition, p. 69.)

¹²⁰ Leitzinger Report, ¶ 47.

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126. However, basic economic theory holds that if the alleged cartel successfully elevated prices of targeted CRTs, it also must have sold fewer of those CRTs. Thus, the alleged cartel could not have shifted production from non-targeted CRTs to targeted CRTs without undermining the increase in targeted CRT prices. As a result, as long as the alleged target prices were the primary mechanism for elevating CRT prices, economic theory implies that, all else equal, prices of non-targeted CRTs would not have risen by as much as prices of targeted CRTs. In fact, the prices of non-targeted CRTs may have even declined if the alleged cartel members shifted capacity that was no longer employed in the production of targeted CRTs to the production of non-targeted CRTs.¹²¹

127. Having failed to provide a plausible or coherent economic explanation of how CRT prices were linked in a manner that implies class-wide impact, Dr. Leitzinger proceeds to conduct a “correlation analysis” of CRT prices that he contends shows that the average sales prices of *non-targeted* categories of CRTs moved closely with average sales prices of *targeted* categories of CRTs. Specifically, Dr. Leitzinger estimates correlation coefficients between average prices of categories of targeted and non-targeted CRTs.¹²² The “correlation coefficient” between any pair of CRT prices is a statistical measure of the strength of the average association between them; it ranges between -1 and 1, with -1 representing the most negative association, 1 representing the most positive association, and 0 representing no association. Dr. Leitzinger finds that most correlation coefficients between the average sales prices of targeted and non-targeted categories of CPTs and between the average sales prices of targeted and non-targeted

¹²¹ To the extent that the alleged cartel also agreed to restrict output of CRTs more generally (i.e., not just the outputs of the CRT models with targeted prices) and successfully implemented such an agreement, this could have resulted in increases of even non-targeted CRT prices. Although Dr. Leitzinger cites to some documents that purport to support the claim that the alleged cartel agreed to restrict output (Leitzinger Report, fn. 53), he presents no analysis of the effectiveness of such output restrictions; rather, his analysis of alleged cartel success focuses exclusively on the effectiveness of the alleged target prices. (See, e.g., Leitzinger Report, ¶ 6 and § VI.)

¹²² For example, Dr. Leitzinger estimates the pairwise correlation coefficients between the average prices of 26-inch CPTs (which he classifies as a “non-targeted” CRT category) and the average prices of CPTs in each targeted size category. Leitzinger Report, ¶ 52.

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categories of CDTs exceed 0.8 (although this condition holds for a minority of his CDT price correlations).¹²³ He interprets this as evidence of a structure that linked the actual sales prices of targeted and non-targeted CRTs, and on this basis concludes that price targets set for targeted CRT categories impacted sales prices in non-targeted CRT categories.^{124, 125}

128. However, correlations of the type estimated by Dr. Leitzinger are most likely spurious, produced by basic flaws long recognized by economists. In fact, even if the so-called targeted and non-targeted categories of CRTs were entirely unrelated by any supply or demand substitution, Dr. Leitzinger's analysis would produce a very high estimate of price correlation just because they were affected by common market forces that had nothing to do with the putative cartel. For instance, prices of most CRTs declined during much of the class period due to manufacturing cost reductions¹²⁶ and declining demand for CRTs as buyers switched to improved LCD and plasma technologies in the later years of the class period. This broad-based decline in CRT prices would generate positive correlations between prices of most types of CRTs even if there was no demand or supply substitution among them. Similarly, movements of the business cycle and changes in market conditions also likely contributed to common CRT price changes, thereby producing correlated CRT price movements without regard to economic linkages between CRTs that matter for assessing common impact of the alleged cartel. Economists have long recognized that such "spurious correlation" is a problem for deriving inferences about economic linkages between products.¹²⁷ In fact, elsewhere in

¹²³ Leitzinger Report, Figure 9.

¹²⁴ Leitzinger Report, ¶ 45.

¹²⁵ Leitzinger Report, Figures 9 and 10, and ¶ 52. The price correlations reported in Figures 9 and 10 of Dr. Leitzinger's report are both likely spurious for the reasons explained in this section.

¹²⁶ CRT manufacturing costs declined in part due to plants relocating to low-cost nations (see *infra* note 150).

¹²⁷ See, e.g., Aldrich, J. "Correlations Genuine and Spurious in Pearson and Yule," *Statistical Science*, Vol. 10, No.4, 1995, pp. 364-376.

(footnote continued ...)

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his report, Dr. Leitzinger acknowledges the need to account for supply and demand factors that influence actual prices in order to limit spurious correlation.¹²⁸

129. Nevertheless, in his analysis of the correlation between targeted and non-targeted categories of CRTs, Dr. Leitzinger altogether ignores the potential for spurious correlation in CRT prices and makes no effort to remove the effects of common market forces that have nothing to do with the alleged cartel. The resulting spurious correlation embedded in Dr. Leitzinger's correlation analysis can be illuminated by examining the relationship between CRT prices and ozone depleting atmospheric substances such as atmospheric chlorine levels. Chlorine gas levels have declined consistently in recent years due to policies designed to protect the ozone layer. Because most CRT prices have also declined, when Dr. Leitzinger's approach is applied to data on CRT prices and atmospheric chlorine levels, it would inevitably find a high, positive correlation between the two.

130. This is illustrated in Exhibit 17, which shows the correlation coefficients between quarterly changes in atmospheric chlorine levels and the average prices of the most popular categories of CRTs since 1995.¹²⁹ Although clearly no one would claim that CRTs were linked by market forces to atmospheric chlorine levels, the fact that both were trending downwards is enough to produce positive correlation coefficients that exceeded 0.9 between prices of each category of CRT and atmospheric chlorine levels. Thus, Dr. Leitzinger's finding of a positive correlation between CRT prices is far from dispositive of the types of economic linkages between them that he posits in order to establish common impact.

(... footnote continued)

¹²⁸ Leitzinger Report, ¶ 43.

¹²⁹ The average price indices of popular categories of CPTs were constructed by Dr. Leitzinger and used in Leitzinger Report, Figure 8. Data on atmospheric chlorine levels are from the National Oceanic and Atmospheric Administration.

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131. Spurious correlation is not the only flaw in Dr. Leitzinger's price correlation analysis. The same analysis masks considerable heterogeneity in CRT price dynamics (described earlier) because the analysis is focused only on *average* CRT prices, i.e., CRT prices that have been aggregated across many different CRTs within broad categories. For example, Dr. Leitzinger's approach examines how the average price of all 21-inch CPT models (a category that he contends was directly targeted by the alleged cartel) was correlated over time with the average price of all 26-inch CPT models (a non-targeted CRT category, per Dr. Leitzinger).¹³⁰ Such an analysis masks the heterogeneity in price levels and price movements of hundreds of CRT models within each of these categories and it obscures the differentiated impact (if any) of the alleged cartel.

132. In order to test the alleged linkage between target prices and the disaggregated prices of CRTs in non-targeted categories, I examined whether the alleged target prices were reliable predictors of the prices paid by individual customers for individual CRT models in non-targeted CRT categories. Such analyses of disaggregated CRT price data reveal the extent of heterogeneity across products and class members, and they demonstrate the need for individualized inquiries to establish impact.

133. For example, I estimate a regression in which the price paid by each customer for each 34-inch CPT model (a non-targeted category) in a given quarter is the dependent variable and the alleged target prices of comparable¹³¹ 28-inch CPTs in the same quarter is the independent variable. The regression analysis reveals that a prediction of the average sales price paid by a particular customer for a particular 34-inch CPT model in a particular quarter, based on the alleged target price for comparable 28-inch CPTs, would be wrong by more than 5% at least 78% of the time, by more than 10% at least 58% of

¹³⁰ Leitzinger Report, Figures 6 and 9.

¹³¹ For the purpose of this analysis, a 28-inch CPT model is considered to be "comparable" to a 34-inch CPT model if both were produced by the same firm and had the same "finish" (i.e., bare or ITC).

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the time, and by more than 15% at least 41% of the time.¹³² These prediction errors are economically significant as evidenced by the fact that CRT manufacturers considered price differentials of 5% or less between manufacturers to be enough to shift sales and shares.¹³³ The prediction errors are also statistically significant at the 95% level.¹³⁴

134. I have conducted a similar analysis using target prices of other so-called targeted CPT categories (other than 28-inch CPTs) to predict prices of 34-inch CPTs and concluded that target prices of those other CPT categories fared even worse when predicting sales prices of 34-inch CPTs. I then extended this analysis to predict sales prices of CRTs in each of the non-targeted CRT categories. Exhibit 18 lists, for each non-targeted CRT category X, the probability of large prediction errors when predictions are based on target prices of the targeted CRT category that proved best at predicting sales prices of non-targeted category X. For example, since target prices of 28-inch CPTs did best at predicting sales prices of 34-inch CPTs, Exhibit 18 notes the probability of large prediction errors when predicting sales prices of 34-inch CPTs based on target prices for 28-inch CPTs: a prediction error of more than 5% at least 78% of the time, by more than 10% at least 58% of the time, and by more than 15% at least 41% of the time.¹³⁵ These are the minimum prediction error rates associated with 34-inch CPTs.

135. As shown in Exhibit 18, target prices identified by Dr. Leitzinger perform extremely poorly when predicting actual prices of most major categories of non-targeted

¹³² I have also conducted this analysis using contemporaneous and lagged values of target prices, and I find qualitatively similar results. For example, when predictions of 34-inch CPT sales prices are based on the contemporaneous and lagged values of target prices of comparable 28-inch CPTs, the prediction error rates are above 40% for errors of at least 5%, 10% or 15%.

¹³³ See *supra* note 54.

¹³⁴ Specifically, they are based on the 5% lower bound of the variance of the prediction error.

¹³⁵ Exhibit 18 lists only non-targeted CRT categories for which there exists at least one price prediction regression of the sort described above with a sample size that is no less than 20. For such CRT categories, results from only regressions with a sample of size at least 20 are used in Exhibit 18. Most non-targeted CDT categories are all excluded from this exhibit because they do not satisfy the sample size requirement.

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CRTs.¹³⁶ Specifically, for three of the four most popular non-targeted CPT sizes identified by Dr. Leitzinger (and which satisfied my sample size requirements for this analysis),¹³⁷ the minimum prediction error was no less than 5% at least 66% of the time, no less than 10% at least 38% of the time, and no less than 15% at least 19% of the time.¹³⁸ The weighted average prediction error rate across all non-targeted CRTs (which meet my sample size requirement) in Exhibit 18 at the 5% threshold is 62%, at the 10% threshold is 40% and at the 15% threshold it is 27%, as shown in Exhibit 18.

136. These prediction errors – based on disaggregated CPT price data – are wholly inconsistent with Dr. Leitzinger’s contention that sales prices of non-targeted CRTs were consistently affected by target prices of targeted CRTs.

137. Similar flaws afflict another price correlation analysis provided by Dr. Leitzinger as evidence of a price structure that implies that even non-targeted CRTs were affected by target prices set for targeted CRT categories.¹³⁹ In Figure 8 of his report, Dr. Leitzinger estimates pairwise correlation coefficients for average prices of major CRT categories. For example, he finds that quarterly average prices of 14-inch CPTs and 21-inch CPTs had a correlation coefficient of 0.95. However, the high correlation coefficients are misleading. They are subject to the problem of spurious correlation described earlier. Moreover, the analysis masks considerable heterogeneity in CRT price dynamics because the analysis is focused only on *average* CRT prices, i.e., CRT prices that have been aggregated across many different CRTs within broad categories. In order

¹³⁶ The analysis in Exhibit 18 is a conservative test of cartel effectiveness because the model attributes any co-movement between actual and alleged target prices to adherence by the alleged cartel when the co-movement may instead have been caused by changes in market forces that had a common impact on actual and target prices.

¹³⁷ The most popular non-targeted CPTs (i.e., those with the greatest dollar sales between 1995 and 2007) identified by Dr. Leitzinger are: 26-inch, 33-inch, 34-inch, 36-inch and 38-inch CPTs. Of these 33-inch CPTs do not meet my requirement of a minimum sample size of 20 observations for the prediction regressions.

¹³⁸ The remaining CPT category, 26-inch CPTs, also had a high minimum prediction error rate of 18% at the 5% threshold but a low one (1%) at the 10% threshold.

¹³⁹ Leitzinger Deposition, p. 148.

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to test the alleged linkage between prices of CRTs in various categories, I examined whether the average prices were reliable predictors of the prices paid by individual customers for individual CRT models in other CRT categories.

138. Exhibit 19 shows that in nearly every case, the average prices of CRT size categories were extremely poor predictors of the prices paid by individual customers for individual CRT models in other CRT size categories (and even in the same size category). For example, when the average quarterly prices of 21-inch CPTs are used to predict the prices of individual 14-inch CPT products paid by individual customers, there is a 76% probability that the prediction would be incorrect by more than 5%, a 54% chance that the prediction would be wrong by more than 10%, and a 36% chance that the prediction would be wrong by more than 15%. These prediction errors are statistically significant at the 5% level.¹⁴⁰

139. In sum, Dr. Leitzinger's correlation analyses mask the considerable heterogeneity in CRT price dynamics because of their focus on *average* CRT prices. Such aggregated analyses obscure material differences among products and class members and mask the difficulty of establishing class-wide impact through the use of common evidence. In contrast, analyses of disaggregated CRT price data reveal the extent of such heterogeneity and the need for individualized inquiries.

V. Pass-through of CRT Costs to Finished Products Prices Was Complex and Differentiated.

140. The proposed DPP class includes purchasers of CRTs as well as purchasers of CRT finished products. Even assuming *arguendo* that the alleged CRT cartel had a uniformly positive impact on the prices paid by direct purchasers of most or all CRTs during the class period, it likely would have had a uniformly positive impact on the prices paid by class members for *finished products* only if the increase in CRT prices flowed through to finished products purchased by class members in a uniformly positive manner.

¹⁴⁰ Specifically, they are based on the 5% lower bound of the variance of the prediction error.

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However, if manufacturers of finished products did not pass through cost changes for some products, for example, because of competition from other technologies, then some products included in the class analysis may not have been impacted and some DPP members may not have been harmed by the alleged cartel.

141. Economic theory shows that not all finished product prices would necessarily have been elevated and prices of some may even have fallen if the alleged cartel had been able to elevate prices of all CRTs. For example, suppose (contrary to evidence) that vertically integrated firms as well as un-integrated firms closely adhered to target CRT prices set by the alleged cartel, and as a consequence prices of all CRTs (*i.e.*, merchant as well as transfer prices) were significantly and permanently elevated. In this scenario, finished product manufacturers that sourced most of their CRTs from third-party CRT suppliers would have faced an increase in cost, and they may have increased the prices they charged for most of their TVs and monitors. However, vertically integrated CRT finished product manufacturers that self-supplied most of their CRTs may have been less likely to elevate their CRT TV and monitor prices, and may even have reduced those prices despite the elevation in CRT prices.

142. Economic theory also shows that the response of vertically integrated firms in this setting depends on technical economic conditions related to the nature of competition among CRT finished product manufacturers.¹⁴¹ In particular, if firms' price strategies are such that their prices are strategic substitutes rather than strategic complements, then vertically integrated manufacturers may actually reduce the prices of their finished products in response to price increases by rival manufacturers that procured CRTs primarily from unaffiliated CRT vendors. Whether firms' prices can be characterized as strategic complements or substitutes depends on a variety of market characteristics, and

¹⁴¹ See, *e.g.*, Bulow, J. I., J. D. Geanakoplos, and P. D. Klemperer. "Multimarket Oligopoly: Strategic Substitutes and Complements." *Journal of Political Economy*, Vol. 93, No. 3. (1985), pp. 488-511. An increase in the transfer price of CRTs sold within a vertically integrated finished product manufacturer need not represent an actual cost increase since it is a transfer between integrated entities, which makes it all the more likely that an integrated firm would not necessarily increase finished product prices in response to an elevation in CRT transfer prices.

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Dr. Leitzinger has performed no analysis as to whether these conditions had been met in the CRT finished products marketplace.

143. In addition, it might well have been the case that for some CRT products during some time periods, available substitute products based on other technology essentially set the competitive wholesale price, so that even if the component CRT's price were elevated there could and would be no pass-through to the wholesale buyer. From the accounting perspective, the product manufacturer or the wholesale supplier might no longer be covering their product's costs, but to the extent some of those costs are sunk it might remain good business to persist in selling the CRT product at its unchanged or even diminished market-driven price.

144. In fact, the data on record show that finished product manufacturers did not always pass-on even widespread changes in CRT costs, which indicates that the link between finished product prices and CRT costs was complex and non-uniform. For example, between Q4 2000 and Q1 2001, prices declined for 99.4% of CDTs sold.¹⁴² However, during the same time period, prices of nearly a third of CRT monitors sold increased or did not change. This implies that a substantial fraction of monitor price changes likely did not reflect CDT cost changes between Q4 2000 and Q1 2001. There is similar evidence that changes in CPT prices were often not passed-through to CRT TV prices. For example, between Q4 2001 and Q1 2002, prices decreased for over 85% of

¹⁴² More precisely, 99.4% of CDT unit sales were associated with CDTs whose prices declined between Q4 2000 and Q1 2001. The median CDT price change of -7.2% between Q4 2000 and Q1 2001 was substantially greater than the median CDT price change of -2.1% across all quarters for which data are available. Moreover, prices of more than 96% of CDT unit sales sold in Q2 2001 declined. Thus, the decline in CDT prices between Q4 2000 and Q1 2001 was not immediately reversed. (The CRT price changes noted here were not due to changes in the mix of products and customers because a "product" in a quarter was defined based on a unique combination of the following variables: manufacturer, model number, application (CPT or CDT), size, shape, finish (Bare/ITC) and bill-to/ship-to customer identity. The average price of a product thus identified in a given quarter is compared with the average price of the same product in the previous quarter.)

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CPTs.¹⁴³ However, during the same time period, prices of nearly two-thirds of CRT TVs sold increased or did not change.^{144, 145} This implies that a substantial fraction of CRT TV price changes potentially did not reflect CPT cost changes between Q4 2001 and Q1 2002. Thus, finished product manufacturers likely did not pass-through CRT cost changes in a significant number of instances even in time periods with broad CRT price changes.

A. A Corrected Version of Dr. Leitzinger's Pass-through Analysis Shows that Pass-through Rates Were Zero for Several Segments of CRT Finished Products.

145. Ignoring the variation in pass-through rates apparent in the available data, Dr. Leitzinger provides an estimate of the *average* pass-through rate of CRT costs to finished product prices – averaged across all finished products, manufacturers, and time periods. Specifically, in order to estimate pass-through rates of CRT costs to finished product prices, Dr. Leitzinger conducts a regression analysis where he estimates the relationship

¹⁴³ More precisely, over 85% of CPT unit sales were associated with CPTs whose prices declined between Q4 2001 and Q1 2002. The median CPT price change of -5.6% between Q4 2001 and Q1 2002 was substantially greater than the median CDT price change of -1.2% across all quarters for which data are available. Moreover, more than 76% of CPT unit sales in Q2 2002 were associated with CPTs whose prices declined. Thus, the decline in CPT prices between Q4 2001 and Q1 2002 was not immediately reversed.

¹⁴⁴ The pass-through analyses described in this paragraph were conducted using the worldwide CRT sales data and mostly North American finished product sales compiled by Dr. Leitzinger. A similar analysis using North American CPT sales data shows that prices of CPTs sold in North America declined broadly in Q1 2002 (just as they did worldwide). Specifically, 78% of CPT unit sales in North America were associated with CPTs whose prices declined between Q4 2001 and Q1 2002. The median CPT price change between Q4 2001 and Q1 2002 was -6.5%. (There were relatively few CDT sales with North American ship-to/bill-to addresses in available CRT sales data.)

¹⁴⁵ In his pass-through regressions, Dr. Leitzinger assumes that wholesale sales prices of finished products reflect contemporaneous wholesale costs, i.e., there is no lag in the reaction of prices to cost. I maintain the same assumption here. However, relaxing the assumption and allowing prices to respond with a lag of one quarter does not alter qualitative results. For example, as noted earlier, from Q4 2000 to Q1 2001, prices declined for 99.4% of CDTs sold and yet prices increased or did not change for about 30% of CRT monitors sold in Q2 2001 (weighted by sales). Similarly, from Q4 2001 to Q1 2002, prices declined for over 85% of CPTs sold, while prices increased or did not change for 74% of CRT TVs sold in Q2 2002 (sales volume weighted).

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between quarterly average prices of CRTs and contemporaneous average prices of finished products. He concludes that CRT prices are passed on to finished product prices at a high rate, such that a \$1 increase in CRT price is associated with more than a \$1 increase in the finished product price.¹⁴⁶ However, his analysis makes no effort to examine if the relationship between CRT price and finished product price (i.e., the pass-through rate) differs across various sizes of TVs, and across other categories of CRTs and finished products. In his deposition, Dr. Leitzinger acknowledged that his pass-through is an average across all types of CRTs and that it does not rule out the possibility that the pass-through rate for some CRTs could be zero.¹⁴⁷

146. Even as an estimate of average pass-through rates, Dr. Leitzinger's analysis is fundamentally flawed. A fundamental failing of his pass-through analysis is that it makes no effort to control for differences across products. Dr. Leitzinger's estimate of the average pass-through rate relies in large part on comparing the prices and costs of different CRT finished products. For example, his analysis of pass-through rates for TVs includes small TVs as well as large TVs. The logic of Dr. Leitzinger's pass-through regression is such that he would compare small and large TVs, and note that (a) CPTs for large TVs cost more, on average, than CPTs for small TVs, and (b) large TVs commanded higher prices than small TVs, on average. Based on this, Dr. Leitzinger's approach would estimate a positive pass-through rate.

147. However, the fact that manufacturers charged higher prices for TVs with higher-cost CPTs says nothing about how they would have responded to the alleged overcharge on a particular product. Dr. Leitzinger's approach potentially over-estimates average pass-through rates because he attributes the entire difference in the prices of these two

¹⁴⁶ Specifically, Dr. Leitzinger estimates a regression where the dependent variable is the quarterly weighted average price of CRT finished products classified by application, size, and manufacturer (e.g., the average price of 14-inch CRT TVs sold by Panasonic in a given quarter). The independent variables include the quarterly weighted average price of CRTs with the same application, size, and manufacturer. Other independent variables attempt to control for changes in market conditions.

¹⁴⁷ Leitzinger Deposition, p. 198.

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categories of TVs in this example to the difference in their tube costs. However, large TVs were more likely to be premium models with features such as high-definition resolution than were smaller TVs. For example, in Q1 2006, nearly 45% of large CRT TV units sold in North America were high-definition TVs, while only about 5% of small and medium-sized CRT TVs were high-definition TVs.¹⁴⁸ Large CRT TVs may have been priced higher, in part, because they were more likely to have premium features such as high-definition resolution for which customers were willing to pay more. In such cases, Dr. Leitzinger's approach would over-estimate pass-through rates because it assumes that the price difference between products is entirely attributable to the products' cost difference.

148. Thus, Dr. Leitzinger's approach likely over-estimates pass-through rates because he compares widely different products. I correct for this flaw and re-estimate pass-through rates. Specifically, I control for differences between finished products by the use of product fixed effects.¹⁴⁹

149. The resulting estimates of the pass-through rates for major categories of CRT finished products are no longer statistically distinguishable from zero at the 10%

¹⁴⁸ "Large" TVs are defined to be at least 30" in size, while the rest are classified as small and medium TVs. (Source: iSuppli Television Systems Market Tracker Database.) High-definition TVs were far more likely to be found among large TVs than among smaller TVs in all quarters from 2005 through 2007, according to iSuppli. (Data for earlier years were not available from iSuppli.)

¹⁴⁹ A standard econometric technique used when unobserved differences between products need to be controlled for in a "panel data" setting (i.e., in a dataset that has multiple products for multiple periods) is to include fixed effects (or "dummy variables") for individual products in the regression, as I do in my pass-through regressions (described in more detail in the Appendix). See, Davis, P., & Garcés, E. (2010). *Quantitative Techniques for Competition and Antitrust Analysis*. Princeton University Press. Section 2.2.3.1. The fixed effects I employ are specific, defined by unique combinations of manufacturer, application (TV/monitor), and size. For example, all SEA 17-inch monitors would be identified by a single dummy variable. I define fixed effects in this manner because Dr. Leitzinger, in his pass-through analysis, defines a finished "product" based on each unique combination of manufacturer, application (TV/monitor), and size; and my intent is to illustrate how even modest extensions to his pass-through models up-ends his results.

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significance level, as illustrated in Exhibit 20. For example, the pass-through rate for TVs is statistically not significant at the 10% level. Moreover, the pass-through rates for small and large TVs are not statistically significant at the 10% level, but the pass-through rate for medium-sized TVs is negative and statistically significant. (See Exhibit 20.)

150. Dr. Leitzinger's regression model of pass-through rates is likely flawed because it does not control for material changes in market conditions during the relevant period. For example, the cost of manufacturing finished products likely declined during the relevant period because TV and monitor manufacturers shifted production to low-cost countries.¹⁵⁰ Because Dr. Leitzinger's model does not control for this downward trend, if finished product manufacturers passed-through any of these cost declines at all, Dr. Leitzinger's model erroneously would attribute their pass-through of declining manufacturing costs as to pass-through of CRT price changes (which were also declining), resulting in an over-estimate of CRT cost pass-through rates. Even setting aside this likely problem with his approach, simply correcting his analysis for the lack of proper controls for cross-product differences in quality implies zero or negative pass-through rates for major categories of CRTs.¹⁵¹

¹⁵⁰ For example, many monitor manufacturers shifted production to China during the class period. "Production shift to China is progressing rapidly in Taiwan. Most of the monitor manufacturers in Taiwan are establishing production centers in China because it is becoming increasingly difficult to remain price competitive in Taiwan due to the rapid decline in prices." (*Flat Panel Display Applications: Trends and Forecasts*. (2001). Fuji Chimera Research Institute, translated by InterLingua, p. 212.) From 1999 to 2005, China's share of CDT monitor production increased from 32.5% to 81.9%. *Forecasts and Trends for Flat Panel Displays and Their Applications*. (2000). Fuji Chimera Research Institute, translated by InterLingua, p. 164; *Flat Panel Display Applications: Trends and Forecasts*. (2007). Fuji Chimera Research Institute, translated by InterLingua, p. 280.

¹⁵¹ Data problems such as poor measurement of the cost of CRTs associated with finished products might also explain non-positive pass-through rate estimates. However, such data limitations only point to the inadequacy of the data relied on by Dr. Leitzinger to estimate pass-through rates.

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VI. Estimating CRT Overcharges

151. In his report, Dr. Leitzinger proposes to compare CRT prices during the alleged cartel period with prices before and after the cartel period in order to estimate putative overcharges for CRTs.¹⁵² In his deposition, Dr. Leitzinger testified that he relies on his analysis of alleged CRT overcharges to opine that the alleged cartel had class-wide impact.¹⁵³ Thus, Dr. Leitzinger's CRT overcharge analysis is relevant for assessing impact as well as damages.

152. Dr. Leitzinger's proposed "before/after analysis" of CRT overcharges designates the period before Q2 1995 to be the "before period" and the period after Q1 2007 as the "after period." The alleged cartel period ranges from Q2 1995 through Q1 2007. However, Dr. Leitzinger makes a further distinction between a first conspiracy period between Q2 1995 and Q2 2006 when, in his view, the cartel was "in full force and effect," and a second conspiracy period between Q3 2006 and Q1 2007 with reduced cartel activity.¹⁵⁴

153. Dr. Leitzinger proceeds to estimate a regression model that compares the average prices of CRTs during the two cartel periods with the average price during the combined pre-cartel and post-cartel periods (the "benchmark period") after controlling for certain market factors that influenced CRT prices. He concludes that the cartel effectively elevated CRT prices during the first but not the second cartel period, resulting in CRT overcharges that ranged from 1.8% to 15.2% per quarter.¹⁵⁵ Dr. Leitzinger claims that his

¹⁵² Leitzinger Report, § VIII.

¹⁵³ Leitzinger Deposition, p. 190.

¹⁵⁴ Leitzinger Report, ¶ 70.

¹⁵⁵ Leitzinger Report, Figure 12. In Dr. Leitzinger's view, although the alleged cartel was ineffective during the second cartel period, the overcharges stemming from cartel actions taken during the first cartel period led to elevated CRT prices during the second cartel period because the impact of the alleged cartel on CRT prices dissipated only gradually. (Leitzinger Report, ¶ 74.)

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overcharge analysis has established that a formulaic approach to damages is feasible.¹⁵⁶ However, as I explain in this section, the formulaic approach proposed by Dr. Leitzinger to estimate average CRT overcharges masks considerable heterogeneity in the impact (if any) of the alleged cartel on CRT prices, and his approach shows that many CRT segments were unaffected by the alleged cartel.

Dr. Leitzinger's Own Data and Approach Show No Evidence of Overcharges for Major Categories of CRTs and No Aggregate Overcharges in North America.

154. Dr. Leitzinger's regression model of CRT overcharges pools together widely disparate types of CRTs. His analysis does not examine whether the alleged overcharges differed across various categories of CRTs. He makes no effort to determine if his estimated average overcharge is reasonably representative of overcharges paid by all or most DPP class members for disparate categories of CRTs. Moreover, Dr. Leitzinger did not estimate overcharges for CRTs sold in North America.¹⁵⁷ In fact, Dr. Leitzinger's own data and overcharge analysis demonstrate that average prices of large segments of CRTs were not higher during the conspiracy periods than during the benchmark period, i.e., there likely was no overcharge for many CRTs sold during the class period. Moreover, if Dr. Leitzinger's analysis is confined to just CRTs sold in North America, then his model shows that the average overcharge for all CRTs sold during the class period was zero and the average overcharge for CDTs sold during the class period was negative.

155. Specifically, when I apply Dr. Leitzinger's overcharge model to worldwide CRT sales data that he used, but separate CPTs from CDTs instead of pooling them together as he does, I find that average CDT prices during the two cartel periods were not statistically significantly (at the 10% level) different from CDT prices in the non-cartel benchmark

¹⁵⁶ Leitzinger Report, ¶¶ 67-68.

¹⁵⁷ In his deposition, Dr. Leitzinger acknowledged that he did not attempt to estimate overcharges for CDTs separately from CPTs, nor for CRTs sold in North America. (Leitzinger Deposition, pp. 169-70.)

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period. Thus, Dr. Leitzinger's own model and data show that prices of CDTs were not elevated by the alleged cartel. Exhibits 21A and 21B contain details of overcharges estimated by Dr. Leitzinger's model for CPTs and CDTs.¹⁵⁸

156. Furthermore, Dr. Leitzinger's overcharge model and data provide evidence of zero overcharges for certain categories of CPTs. Specifically, using his model and data to estimate overcharges for CPTs separately for CPTs of different sizes shows that prices of small CPTs during the cartel periods were not statistically significantly (at the 10% level) different from the benchmark period (i.e., there was no overcharge), and the same is true of large CPTs at the 5% significance level (although there is an overcharge at the 10% level).¹⁵⁹ (See Exhibits 21A and 21B for details.)

157. Although Dr. Leitzinger did not present any analyses of putative overcharges on North American CRT sales, I have applied his overcharge model separately to *CRTs sold to customers in North America*. When confined to North American CRT sales, Dr. Leitzinger's overcharge model estimates a zero average overcharge across all CRTs (pooled together) sold in North America. Moreover, when his model is further disaggregated and used to estimate overcharges separately for CPTs and CDTs sold in North America, overcharges for CPTs are found to be statistically no different from zero. Moreover, his model estimates a *negative* overcharge (statistically significant at the 1% level) for North American CDT sales. See Exhibits 21C and 21D for details.

¹⁵⁸ I have estimated Dr. Leitzinger's overcharge model separately for CDTs and CPTs, and this specification finds that the overcharge for CDTs is not statistically significant (at the 10%) level for both cartel periods identified by Dr. Leitzinger. In one of the analyses described in Exhibit 21B, I pooled CPTs and CDTs into a single dataset (as Dr. Leitzinger does) but then permitted the overcharge to differ across CPTs and CDTs by including in the regression a dummy variable indicator for CDTs and interacting it with the cartel period dummy indicator variables.

¹⁵⁹ "Small" CPTs are defined to be those with a diagonal length less than 20 inches, and "large" CPTs have a length of at least 30 inches. The remaining CPTs are defined as "medium-sized."

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Dr. Leitzinger's CRT Overcharge Model is Fundamentally Unsound.

158. Dr. Leitzinger's proposed approach to estimating even aggregate overcharges is fundamentally unsound. For his approach to be sound and reliable, it must appropriately control for the enormous changes that occurred in the CRT marketplace during the nearly 20 years between the early 1990s and the late 2000s that Dr. Leitzinger examines. By the late 2000s, CRTs had been largely displaced by LCDs, manufacturing costs had been altered by plant re-locations, and the mix of CRTs had changed substantially (with flat CPTs displacing curved CPTs, for example).¹⁶⁰ Most of these changes likely would have occurred even in the absence of the alleged cartel.

159. The soundness of the methodology Dr. Leitzinger proposes can be tested by comparing average CRT prices before and after the cartel. If Dr. Leitzinger's overcharge model is able reliably to isolate and estimate the impact of the alleged cartel's conduct on CRT prices and properly control for changes in market conditions, then his model would predict that the average CRT price in the pre-cartel period (i.e., prior to Q2 1995) and the post-cartel period (i.e., after Q1 2007) are comparable after controlling for differences in market conditions between the two periods. Alternatively, his model should predict that the average CRT price during the pre-cartel period should be lower than the average price in post-cartel period if post-cartel prices were elevated somewhat by the lingering effects of the cartel.

160. However, Dr. Leitzinger's overcharge model – when applied to global CRT sales data – shows that pre-cartel CRT prices were *higher* than post-cartel prices after controlling for the market factors included in Dr. Leitzinger's model. Furthermore, Dr. Leitzinger's model and data show that the pre-cartel period CRT average prices were higher than average prices during the alleged cartel periods, while the cartel periods' prices were above the post-cartel period prices. Put differently, Dr. Leitzinger's approach shows that the putative cartel simultaneously *lowered* the prices of CRTs relative to one

¹⁶⁰ See Exhibit 12, *supra* note 106 and *supra* note 150.

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of his benchmark periods (the pre-cartel period) even as it increased prices relative to the other benchmark period (the post-cartel period). (See Exhibit 21 for details.)

161. The likely explanation for this inconsistency is that market conditions changed materially over time, thereby driving CRTs prices down, and Dr. Leitzinger's model does not properly control for these changes and isolate the impact of the alleged cartel. It may be that his analysis improperly attributes some of the impact of these market changes to the alleged cartel, thereby overstating the impact of the alleged cartel. At a minimum, Dr. Leitzinger has not refuted this possibility.

162. Moreover, although Dr. Leitzinger's overcharge model includes a variable designed to capture the impact of LCD competition, it does not permit the impact of such competition to differ across various categories of CRTs, which again limits the usefulness of the model.¹⁶¹

163. In sum, Dr. Leitzinger is mistaken in his claim that his overcharge model proves the feasibility of a formulaic approach to reliably estimating damages.¹⁶² If anything, his data and his analysis demonstrate the need for a disaggregated analysis of impact and damages.

¹⁶¹ Specifically, his overcharge regression model (Leitzinger Report, Figure 11) includes a variable that measures quarterly shipments of LCDs by application (TVs/monitors). However, his model restricts the coefficient on this variable to be the same for both applications.

¹⁶² Leitzinger Report, ¶¶ 67-68.

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VII. Conclusions

164. Overall, it is my conclusion that the fact of impact on all (or almost all) of the members of the proposed DPP class from the alleged collusion among the defendant CRT producers cannot be established by means of common evidence. Prices of the different CRT finished products and CRTs changed very differently from each other from quarter to quarter and over the span of the class period, and this heterogeneity was due to substantially different market forces that applied to various CRT product segments at various points during the class period. Moreover, pass-through rates were not uniformly positive and a significant fraction of cost changes may not have been passed on to class members at all by some manufacturers. The substantial diversity of pricing levels and movements that is apparent from the pricing data shows that individualized inquiries would be necessary to assess whether most of the members of the proposed class were impacted by the alleged collusion.

165. Dr. Leitzinger's attempts to overcome this reality do not withstand scrutiny. He asserts that common proof is provided by the target price mechanism for coordinating the alleged cartel's CRT prices and that the alleged target prices he identifies cover 94% of CRT sales. In fact, the target prices he identifies cover only 17% of CRT sales. Moreover, empirical analysis of those 17% of sales demonstrates that there was an extremely weak relationship between changes in the target prices and changes in the actual prices. Dr. Leitzinger also puts forward a series of hedonic regressions to support his claim that the alleged conspiracy had classwide impact, but in his deposition frankly acknowledged that there is no logical way to adduce from such regressions evidence on class-wide impact.

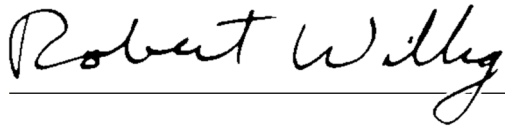
166. Finally, Dr. Leitzinger proffers a regression analysis relating CRT prices to selected control variables including one for a "pre-conspiracy period," one each for two "conspiracy periods," and one for a "post-conspiracy period." He finds that average worldwide CRT prices were somewhat higher during one of the conspiracy periods than during the combined non-conspiracy periods and claims that this contributes to proof of classwide impact and to the feasibility of a common formula for estimating damages. However, when his regression is limited to North American CRT sales instead of

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worldwide CRT sales, the measure of impact goes away. When his regression is disaggregated by treating global sales of CPTs and CDTs separately (since there are overwhelmingly different fact patterns surrounding them), the measure of impact on CDT prices goes away. When his regression is disaggregated to allow pricing to be different during the pre-conspiracy and post-conspiracy periods, the measure of impact reverses and pricing is seen to be lower during the conspiracy period than during the pre-conspiracy period. Thus, as put forward, the Dr. Leitzinger's overcharge model creates false positives for North American sales, for CDT sales, and for sales throughout the entire alleged conspiracy period. In other words, there is no evidence with any validity that supports any theory of classwide impact and common damages methodology.

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I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief. This declaration was executed on the 10th day of September 2013 in Princeton, New Jersey.

A handwritten signature in black ink, reading "Robert Willig", written over a horizontal line.

Robert D. Willig

Attachment 1: Curriculum Vitae

Name: Robert D. Willig

Address: 220 Ridgeview Road, Princeton, New Jersey 08540

Birth: 1/16/47; Brooklyn, New York

Marital Status: Married, four children

Education: Ph.D. Economics, Stanford University, 1973
Dissertation: Welfare Analysis of Policies
Affecting Prices and Products.
Advisor: James Rosse

M.S. Operations Research, Stanford University, 1968.

A.B. Mathematics, Harvard University, 1967.

Professional Positions:

Professor of Economics and Public Affairs, Princeton University, 1978-.

Principal External Advisor, Infrastructure Program, Inter-American Development Bank, 6/97-8/98.

Deputy Assistant Attorney General, U.S. Department of Justice, 1989-1991.

Supervisor, Economics Research Department, Bell Laboratories, 1977-1978.

Visiting Lecturer (with rank of Associate Professor), Department of Economics and Woodrow Wilson School, Princeton University, 1977-78 (part time).

Economics Research Department, Bell Laboratories, 1973-77.

Lecturer, Economics Department, Stanford University, 1971-73.

Other Professional Activities:

ABA Section of Antitrust Law Economics Task Force, 2010-2012

Advisory Committee, Compass Lexecon 2010 -,

OECD Advisory Council for Mexican Economic Reform, 2008 -2009,

Senior Consultant, Compass Lexecon, 2008 -,

Director, Competition Policy Associates, Inc., 2003-2005

Advisory Board, Electronic Journal of Industrial Organization and Regulation Abstracts, 1996-.

Advisory Board, Journal of Network Industries, 2004-.

Visiting Faculty Member (occasional), International Program on Privatization and Regulatory Reform, Harvard Institute for International Development, 1996-2000.

Member, National Research Council Highway Cost Allocation Study Review Committee, 1995-98.

Member, Defense Science Board Task Force on the Antitrust Aspects of Defense Industry Consolidation, 1993-94.

Editorial Board, Utilities Policy, 1990-2001

Leif Johanson Lecturer, University of Oslo, November 1988.

Member, New Jersey Governor's Task Force on Market-Based Pricing of Electricity, 1987-89.

Co-editor, Handbook of Industrial Organization, 1984-89.

Associate Editor, Journal of Industrial Economics, 1984-89.

Director, Consultants in Industry Economics, Inc., 1983-89, 1991-94.

Fellow, Econometric Society, 1981-.

Organizing Committee, Carnegie-Mellon-N.S.F. Conference on Regulation, 1985.

Board of Editors, American Economic Review, 1980-83.

Nominating Committee, American Economic Association, 1980-1981.

Research Advisory Committee, American Enterprise Institute, 1980-1986.

Editorial Board, M.I.T. Press Series on Government Regulation of Economic Activity, 1979-93.

Program Committee, 1980 World Congress of the Econometric Society.

Program Committee, Econometric Society, 1979, 1981, 1985.

Organizer, American Economic Association Meetings: 1980, 1982.

American Bar Association Section 7 Clayton Act Committee, 1981.

Principal Investigator, NSF grant SOC79-0327, 1979-80; NSF grant 285-6041, 1980-82; NSF grant SES-8038866, 1983-84, 1985-86.

Aspen Task Force on the Future of the Postal Service, 1978-80.

Organizing Committee of Sixth Annual Telecommunications Policy Research Conference, 1977-78.

Visiting Fellow, University of Warwick, July 1977.

Institute for Mathematical Studies in the Social Sciences, Stanford University, 1975.

Published Articles and Book Chapters:

"The Liftoff of Consumer Benefits from the Broadband Revolution" (with Mark Dutz and Jon Orszag), Review of Network Economics (2012) vol. 11, issue 4, article 2.

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"'Reverse Payments' in Settlements of Patent Litigation: Split Opinions on Schering-Plough's K-Dur (2005 and 2012)" (with John P. Bigelow), in **The Antitrust Revolution, Sixth Edition**, (J. Kwoka and Laurence White, eds.), Oxford University Press, forthcoming.

"Delta-Northwest: Merger Approval Driven by Consumer Benefits from Airline Network Effects" (with Mark Israel, Bryan Keating and Daniel Rubinfeld), in **The Antitrust Revolution, Sixth Edition**, (J. Kwoka and Laurence White, eds.), Oxford University Press, forthcoming.

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"Airline Network Effects and Consumer Welfare" (with Bryan Keating, Mark Israel and Daniel Rubinfeld), 2012, under revision for **Review of Network Economics**

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Invited Conference Presentations:

Brookings Institution Conference on The Economics of the Airline Industry "Airline Network Effects and Consumer Welfare"	2012
AGEP Public Policy Conference on Pharmaceutical Industry Economics, Regulation and Legal Issues; Law and Economics Center, George Mason University School of Law "Pharmaceutical Brand-Generic Disputes"	2012
U.S.-EU Alliance Study Peer Review Conferences "Review of Cooperative Agreements in Transatlantic Airline Markets"	2012
"The Research Agenda Ahead"	2012
Antitrust in the High Tech Sector Conference "Developments in Merger Enforcement"	2012
Georgetown Center for Business and Public Policy, Conference on the Evolution of Regulation "Reflections on Regulation"	2011
Antitrust Forum, New York State Bar Association "Upward Price Pressure, Market Definition and Supply Mobility"	2011
American Bar Association, Antitrust Section, Annual Convention "The New Merger Guidelines' Analytic Highlights"	2011
OECD and World Bank Conference on Challenges and Policies for Promoting Inclusive Growth "Inclusive Growth From Competition and Innovation"	2011
Villanova School of Business Executive MBA Conference "Airline Network Effects, Competition and Consumer Welfare"	2011
NYU School of Law Conference on Critical Directions in Antitrust "Unilateral Competitive Effects"	2010
Conf. on the State of European Competition Law and Enforcement in a Transatlantic Context "Recent Developments in Merger Control"	2010
Center on Regulation and Competition, Universidad de Chile Law School "Economic Regulation and the Limits of Antitrust Law"	2010
Center on Regulation and Competition, Universidad de Chile Law School "Merger Policy and Guidelines Revision"	2010
Faculty of Economics, Universidad de Chile	

"Network Effects in Airlines Markets"	2010
Georgetown Law Global Antitrust Enforcement Symposium "New US Merger Guidelines"	2010
FTI London Financial Services Conference "Competition and Regulatory Reform"	2010
NY State Bar Association Annual Antitrust Conference "New Media Competition Policy"	2009
Antitrust Law Spring Meeting of the ABA "Antitrust and the Failing Economy Defense"	2009
Georgetown Law Global Antitrust Enforcement Symposium "Mergers: New Enforcement Attitudes in a Time of Economic Challenge"	2009
Phoenix Center US Telecoms Symposium "Assessment of Competition in the Wireless Industry"	2009
FTC and DOJ Horizontal Merger Guidelines Workshop "Direct Evidence is No Magic Bullet"	2009
Northwestern Law Research Symposium: Antitrust Economics and Competition Policy "Discussion of Antitrust Evaluation of Horizontal Mergers"	2008
Inside Counsel Super-Conference "Navigating Mixed Signals under Section 2 of the Sherman Act"	2008
Federal Trade Commission Workshop on Unilateral Effects in Mergers "Best Evidence and Market Definition"	2008
European Policy Forum, Rules for Growth: Telecommunications Regulatory Reform "What Kind of Regulation For Business Services?"	2007
Japanese Competition Policy Research Center, Symposium on M&A and Competition Policy "Merger Policy Going Forward With Economics and the Economy"	2007
Federal Trade Commission and Department of Justice Section 2 Hearings "Section 2 Policy and Economic Analytic Methodologies"	2007
Pennsylvania Bar Institute, Antitrust Law Committee CLE "The Economics of Resale Price Maintenance and Class Certification"	2007
Pennsylvania Bar Institute, Antitrust Law Committee CLE	

“Antitrust Class Certification – An Economist’s Perspective”	2007
Fordham Competition Law Institute, International Competition Economics Training Seminar “Monopolization and Abuse of Dominance”	2007
Canadian Bar Association Annual Fall Conference on Competition Law “Economic Tools for the Competition Lawyer”	2007
Conference on Managing Litigation and Business Risk in Multi-jurisdiction Antitrust Matters “Economic Analysis in Multi-jurisdictional Merger Control”	2007
World Bank Conference on Structuring Regulatory Frameworks for Dynamic and Competitive South Eastern European Markets “The Roles of Government Regulation in a Dynamic Economy”	2006
Department of Justice/Federal Trade Commission Section 2 Hearings “(Allegedly) Monopolizing Tying Via Product Innovation”	2006
Fordham Competition Law Institute, Competition Law Seminar “Monopolization and Abuse of Dominance”	2006
Practicing Law Institute on Intellectual Property Antitrust “Relevant Markets for Intellectual Property Antitrust”	2006
PLI Annual Antitrust Law Institute “Cutting Edge Issues in Economics”	2006
World Bank’s Knowledge Economy Forum V “Innovation, Growth and Competition”	2006
Charles University Seminar Series “The Dangers of Over-Ambitious Antitrust Regulation”	2006
NY State Bar Association Antitrust Law Section Annual Meeting “Efficient Integration or Illegal Monopolization?”	2006
World Bank Seminar “The Dangers of Over-Ambitious Regulation”	2005
ABA Section of Antitrust Law 2005 Fall Forum “Is There a Gap Between the Guidelines and Agency Practice?”	2005
Hearing of Antitrust Modernization Commission “Assessment of U.S. Merger Enforcement Policy”	2005

LEAR Conference on Advances in the Economics of Competition Law “Exclusionary Pricing Practices”	2005
Annual Antitrust Law Institute “Cutting Edge Issues in Economics”	2005
PRIOR Symposium on States and Stem Cells “Assessing the Economics of State Stem Cell Programs”	2005
ABA Section of Antitrust Law – AALS Scholars Showcase “Distinguishing Anticompetitive Conduct”	2005
Allied Social Science Associations National Convention “Antitrust in the New Economy”	2005
ABA Section of Antitrust Law 2004 Fall Forum “Advances in Economic Analysis of Antitrust”	2004
Phoenix Center State Regulator Retreat “Regulatory Policy for the Telecommunications Revolution”	2004
OECD Competition Committee “Use of Economic Evidence in Merger Control”	2004
Justice Department/Federal Trade Commission Joint Workshop “Merger Enforcement”	2004
Phoenix Center Annual U.S. Telecoms Symposium “Incumbent Market Power”	2003
Center for Economic Policy Studies Symposium on Troubled Industries “What Role for Government in Telecommunications?”	2003
Princeton Workshop on Price Risk and the Future of the Electric Markets “The Structure of the Electricity Markets”	2003
2003 Antitrust Conference “International Competition Policy and Trade Policy”	2003
International Industrial Organization Conference “Intellectual Property System Reform”	2003
ABA Section of Antitrust Law 2002 Fall Forum “Competition, Regulation and Pharmaceuticals”	2002

Fordham Conference on International Antitrust Law and Policy	
“Substantive Standards for Mergers and the Role of Efficiencies”	2002
Department of Justice Telecom Workshop	
“Stimulating Investment and the Telecommunications Act of 1996”	2002
Department of Commerce Conference on the State of the Telecom Sector	
“Stimulating Investment and the Telecommunications Act of 1996”	2002
Law and Public Affairs Conference on the Future of Internet Regulation	
“Open Access and Competition Policy Principles”	2002
Center for Economic Policy Studies Symposium on Energy Policy	
“The Future of Power Supply”	2002
The Conference Board: Antitrust Issues in Today’s Economy	
“The 1982 Merger Guidelines at 20”	2002
Federal Energy Regulatory Commission Workshop	
“Effective Deregulation of Residential Electric Service”	2001
IPEA International Seminar on Regulation and Competition	
“Electricity Markets: Deregulation of Residential Service”	2001
“Lessons for Brazil from Abroad”	2001
ABA Antitrust Law Section Task Force Conference	
“Time, Change, and Materiality for Monopolization Analyses”	2001
Harvard University Conference on American Economic Policy in the 1990s	
“Comments on Antitrust Policy in the Clinton Administration”	2001
Tel-Aviv Workshop on Industrial Organization and Anti-Trust	
“The Risk of Contagion from Multimarket Contact”	2001
2001 Antitrust Conference	
“Collusion Cases: Cutting Edge or Over the Edge?”	2001
“Dys-regulation of California Electricity”	2001
FTC Public Workshop on Competition Policy for E-Commerce	
“Necessary Conditions for Cooperation to be Problematic”	2001
HIID International Workshop on Infrastructure Policy	
“Infrastructure Privatization and Regulation”	2000
Villa Mondragone International Economic Seminar	
“Competition Policy for Network and Internet Markets”	2000

New Developments in Railroad Economics: Infrastructure Investment and Access Policies “Railroad Access, Regulation, and Market Structure”	2000
The Multilateral Trading System at the Millennium “Efficiency Gains From Further Liberalization”	2000
Singapore – World Bank Symposium on Competition Law and Policy “Policy Towards Cartels and Collusion”	2000
CEPS: Is It a New World?: Economic Surprises of the Last Decade “The Internet and E-Commerce”	2000
Cutting Edge Antitrust: Issues and Enforcement Policies “The Direction of Antitrust Entering the New Millennium”	2000
The Conference Board: Antitrust Issues in Today’s Economy “Antitrust Analysis of Industries With Network Effects”	1999
CEPS: New Directions in Antitrust “Antitrust in a High-Tech World”	1999
World Bank Meeting on Competition and Regulatory Policies for Development “Economic Principles to Guide Post-Privatization Governance”	1999
1999 Antitrust Conference “Antitrust and the Pace of Technological Development” “Restructuring the Electric Utility Industry”	1999 1999
HIID International Workshop on Privatization, Regulatory Reform and Corporate Governance “Privatization and Post-Privatization Regulation of Natural Monopolies”	1999
The Federalist Society: Telecommunications Deregulation: Promises Made, Potential Lost? “Grading the Regulators”	1999
Inter-American Development Bank: Second Generation Issues In the Reform Of Public Services “Post-Privatization Governance” “Issues Surrounding Access Arrangements”	1999 1999
Economic Development Institute of the World Bank -- Program on Competition Policy “Policy Towards Horizontal Mergers”	1998
Twenty-fifth Anniversary Seminar for the Economic Analysis Group of the Department of	

Justice	
“Market Definition in Antitrust Analysis”	1998
HIID International Workshop on Privatization, Regulatory Reform and Corporate Governance	
“Infrastructure Architecture and Regulation: Railroads”	1998
EU Committee Competition Conference – Market Power	
“US/EC Perspective on Market Definition”	1998
Federal Trade Commission Roundtable	
“Antitrust Policy for Joint Ventures”	1998
1998 Antitrust Conference	
“Communications Mergers”	1998
The Progress and Freedom Foundation Conference on Competition, Convergence, and the Microsoft Monopoly	
Access and Bundling in High-Technology Markets	1998
FTC Program on The Effective Integration of Economic Analysis into Antitrust Litigation	
The Role of Economic Evidence and Testimony	1997
FTC Hearings on Classical Market Power in Joint Ventures	
Microeconomic Analysis and Guideline	1997
World Bank Economists --Week IV Keynote	
Making Markets More Effective With Competition Policy	1997
Brookings Trade Policy Forum	
Competition Policy and Antidumping: The Economic Effects	1997
University of Malaya and Harvard University Conference on The Impact of Globalisation and Privatisation on Malaysia and Asia in the Year 2020	
Microeconomics, Privatization, and Vertical Integration	1997
ABA Section of Antitrust Law Conference on The Telecommunications Industry	
Current Economic Issues in Telecommunications	1997
Antitrust 1998: The Annual Briefing	
The Re-Emergence of Distribution Issues	1997
Inter-American Development Bank Conference on Private Investment, Infrastructure Reform and Governance in Latin America & the Caribbean	
Economic Principles to Guide Post-Privatization Governance	1997

Harvard Forum on Regulatory Reform and Privatization of Telecommunications in the Middle East	
Privatization: Methods and Pricing Issues	1997
American Enterprise Institute for Public Policy Research Conference	
Discussion of Local Competition and Legal Culture	1997
Harvard Program on Global Reform and Privatization of Public Enterprises	
“Infrastructure Privatization and Regulation: Freight”	1997
World Bank Competition Policy Workshop	
“Competition Policy for Entrepreneurship and Growth”	1997
Eastern Economics Association Paul Samuelson Lecture	
“Bottleneck Access in Regulation and Competition Policy”	1997
ABA Annual Meeting, Section of Antitrust Law	
“Antitrust in the 21st Century: The Efficiencies Guidelines”	1997
Peruvian Ministry of Energy and Mines Conference on Regulation of Public Utilities	
“Regulation: Theoretical Context and Advantages vs. Disadvantages”	1997
The FCC: New Priorities and Future Directions	
“Competition in the Telecommunications Industry”	1997
American Enterprise Institute Studies in Telecommunications Deregulation	
“The Scope of Competition in Telecommunications”	1996
George Mason Law Review Symposium on Antitrust in the Information Revolution	
“Introduction to the Economic Theory of Antitrust and Information”	1996
Korean Telecommunications Public Lecture	
“Market Opening and Fair Competition”	1996
Korea Telecommunications Forum	
“Desirable Interconnection Policy in a Competitive Market”	1996
European Association for Research in Industrial Economics Annual Conference	
“Bottleneck Access: Regulation and Competition Policy”	1996
Harvard Program on Global Reform and Privatization of Public Enterprises	
“Railroad and Other Infrastructure Privatization”	1996

FCC Forum on Antitrust and Economic Issues Involved with InterLATA Entry “The Scope of Telecommunications Competition”	1996
Citizens for a Sound Economy Policy Watch on Telecommunications Interconnection “The Economics of Interconnection”	1996
World Bank Seminar on Experiences with Corporatization “Strategic Directions of Privatization”	1996
FCC Economic Forum on the Economics of Interconnection Lessons from Other Industries	1996
ABA Annual Meeting, Section of Antitrust Law The Integration, Disintegration, and Reintegration of the Entertainment Industry	1996
Conference Board: 1996 Antitrust Conference How Economics Influences Antitrust and Vice Versa	1996
Antitrust 1996: A Special Briefing Joint Ventures and Strategic Alliances	1996
New York State Bar Association Section of Antitrust Law Winter Meeting Commentary on Horizontal Effects Issues	1996
FTC Hearings on the Changing Nature of Competition in a Global and Innovation-Driven Age Vertical Issues for Networks and Standards	1995
Wharton Seminar on Applied Microeconomics Access Policies with Imperfect Regulation	1995
Antitrust 1996, Washington D.C. Assessing Joint Ventures for Diminution of Competition	1995
ABA Annual Meeting, Section of Antitrust Law Refusals to Deal -- Economic Tests for Competitive Harm	1995
FTC Seminar on Antitrust Enforcement Analysis Diagnosing Collusion Possibilities	1995
Philadelphia Bar Education Center: Antitrust Fundamentals Antitrust--The Underlying Economics	1995
Vanderbilt University Conference on Financial Markets	

Why Do Christie and Schultz Infer Collusion From Their Data?	1995
ABA Section of Antitrust Law Chair=s Showcase Program Discussion of Telecommunications Competition Policy	1995
Conference Board: 1995 Antitrust Conference Analysis of Mergers and Joint Ventures	1995
ABA Conference on The New Antitrust: Policy of the '90s Antitrust on the Super Highways/Super Airways	1994
ITC Hearings on The Economic Effects of Outstanding Title VII Orders "The Economic Impacts of Antidumping Policies"	1994
OECD Working Conference on Trade and Competition Policy "Empirical Evidence on The Nature of Anti-dumping Actions"	1994
Antitrust 1995, Washington D.C. "Rigorous Antitrust Standards for Distribution Arrangements"	1994
ABA -- Georgetown Law Center: Post Chicago-Economics: New Theories - New Cases? "Economic Foundations for Vertical Merger Guidelines"	1994
Conference Board: Antitrust Issues in Today's Economy "New Democrats, Old Agencies: Competition Law and Policy"	1994
Federal Reserve Board Distinguished Economist Series "Regulated Private Enterprise Versus Public Enterprise"	1994
Institut d'Etudes Politiques de Paris "Lectures on Competition Policy and Privatization"	1993
Canadian Bureau of Competition Policy Academic Seminar Series, Toronto. "Public Versus Regulated Private Enterprise"	1993
CEPS Symposium on The Clinton Administration: A Preliminary Report Card "Policy Towards Business"	1993
Columbia Institute for Tele-Information Conference on Competition in Network Industries, New York, NY "Discussion of Deregulation of Networks: What Has Worked and What Hasn't"	1993
World Bank Annual Conference on Development Economics "Public Versus Regulated Private Enterprise"	1993

Center for Public Utilities Conference on Current Issues Challenging the Regulatory Process	
"The Economics of Current Issues in Telecommunications Regulation"	1992
"The Role of Markets in Presently Regulated Industries"	1992
 The Conference Board's Conference on Antitrust Issues in Today's Economy, New York, NY	
"Antitrust in the Global Economy"	1992
"Monopoly Issues for the '90s"	1993
 Columbia University Seminar on Applied Economic Theory, New York, NY	
"Economic Rationales for the Scope of Privatization"	1992
 Howrey & Simon Conference on Antitrust Developments, Washington, DC	
"Competitive Effects of Concern in the Merger Guidelines"	1992
 Arnold & Porter Colloquium on Merger Enforcement, Washington, DC	
"The Economic Foundations of the Merger Guidelines"	1992
 American Bar Association, Section on Antitrust Law Leadership Council Conference, Monterey, CA	
"Applying the 1992 Merger Guidelines"	1992
 OECD Competition Policy Meeting, Paris, France	
"The Economic Impacts of Antidumping Policy"	1992
 Center for Public Choice Lecture Series, George Mason University Arlington, VA	
"The Economic Impacts of Antidumping Policy"	1992
 Brookings Institution Microeconomics Panel, Washington, DC,	
"Discussion of the Evolution of Industry Structure"	1992
 AT&T Conference on Antitrust Essentials	
"Antitrust Standards for Mergers and Joint Ventures"	1991
 ABA Institute on The Cutting Edge of Antitrust: Market Power	
"Assessing and Proving Market Power: Barriers to Entry"	1991
 Second Annual Workshop of the Competition Law and Policy Institute of New Zealand	
"Merger Analysis, Industrial Organization Theory, and Merger Guidelines"	1991
"Exclusive Dealing and the <u>Fisher & Paykel</u> Case"	1991
 Special Seminar of the New Zealand Treasury	
"Strategic Behavior, Antitrust, and The Regulation of Natural Monopoly"	1991

Public Seminar of the Australian Trade Practices Commission "Antitrust Issues of the 1990's"	1991
National Association of Attorneys General Antitrust Seminar "Antitrust Economics"	1991
District of Columbia Bar's 1991 Annual Convention "Administrative and Judicial Trends in Federal Antitrust Enforcement"	1991
ABA Spring Meeting "Antitrust Lessons From the Airline Industry"	1991
Conference on The Transition to a Market Economy - Institutional Aspects "Anti-Monopoly Policies and Institutions"	1991
Conference Board's Thirtieth Antitrust Conference "Antitrust Issues in Today's Economy"	1991
American Association for the Advancement of Science Annual Meeting "Methodologies for Economic Analysis of Mergers"	1991
General Seminar, Johns Hopkins University "Economic Rationales for the Scope of Privatization"	1991
Capitol Economics Speakers Series "Economics of Merger Guidelines"	1991
CRA Conference on Antitrust Issues in Regulated Industries "Enforcement Priorities and Economic Principles"	1990
Pepper Hamilton & Scheetz Anniversary Colloquium "New Developments in Antitrust Economics"	1990
PLI Program on Federal Antitrust Enforcement in the 90's "The Antitrust Agenda of the 90's"	1990
FTC Distinguished Speakers Seminar "The Evolving Merger Guidelines"	1990
The World Bank Speakers Series "The Role of Antitrust Policy in an Open Economy"	1990
Seminar of the Secretary of Commerce and Industrial Development of Mexico "Transitions to a Market Economy"	1990

Southern Economics Association	
"Entry in Antitrust Analysis of Mergers"	1990
"Discussion of Strategic Investment and Timing of Entry"	1990
American Enterprise Institute Conference on Policy Approaches to the Deregulation of Network Industries	
"Discussion of Network Problems and Solutions"	1990
American Enterprise Institute Conference on Innovation, Intellectual Property, and World Competition	
"Law and Economics Framework for Analysis"	1990
Banco Nacional de Desenvolvimento Economico Social Lecture	
"Competition Policy: Harnessing Private Interests for the Public Interest"	1990
Western Economics Association Annual Meetings	
"New Directions in Antitrust from a New Administration"	1990
"New Directions in Merger Enforcement: The View from Washington"	1990
Woodrow Wilson School Alumni Colloquium	
"Microeconomic Policy Analysis and Antitrust--Washington 1990"	1990
Arnold & Porter Lecture Series	
"Advocating Competition"	1991
"Antitrust Enforcement"	1990
ABA Antitrust Section Convention	
"Recent Developments in Market Definition and Merger Analysis"	1990
Federal Bar Association	
"Joint Production Legislation: Competitive Necessity or Cartel Shield?"	1990
Pew Charitable Trusts Conference	
"Economics and National Security"	1990
ABA Antitrust Section Midwinter Council Meeting	
"Fine-tuning the Merger Guidelines"	1990
"The State of the Antitrust Division"	1991
International Telecommunications Society Conference	
"Discussion of the Impact of Telecommunications in the UK"	1989
The Economists of New Jersey Conference	
"Recent Perspectives on Regulation"	1989

Conference on Current Issues Challenging the Regulatory Process	
"Innovative Pricing and Regulatory Reform"	1989
"Competitive Wheeling"	1989
Conference Board: Antitrust Issues in Today's Economy	
"Foreign Trade Issues and Antitrust"	1989
McKinsey & Co. Mini-MBA Conference	
"Economic Analysis of Pricing, Costing, and Strategic Business Behavior"	1989
	1994
Olin Conference on Regulatory Mechanism Design	
"Revolutions in Regulatory Theory and Practice: Exploring The Gap"	1989
University of Dundee Conference on Industrial Organization and Strategic Behavior	
"Mergers in Differentiated Product Industries"	1988
Leif Johanson Lectures at the University of Oslo	
"Normative Issues in Industrial Organization"	1988
Mergers and Competitiveness: Spain Facing the EEC	
"Merger Policy"	1988
"R&D Joint Ventures"	1988
New Dimensions in Pricing Electricity	
"Competitive Pricing and Regulatory Reform"	1988
Program for Integrating Economics and National Security: Second Annual Colloquium	
"Arming Decisions Under Asymmetric Information"	1988
European Association for Research in Industrial Economics	
"U.S. Railroad Deregulation and the Public Interest"	1987
"Economic Rationales for the Scope of Privatization"	1989
"Discussion of Licensing of Innovations"	1990
Annenberg Conference on Rate of Return Regulation in the Presence of Rapid Technical Change	
"Discussion of Regulatory Mechanism Design in the Presence of Research, Innovation, and Spillover Effects"	1987
Special Brookings Papers Meeting	
"Discussion of Empirical Approaches to Strategic Behavior"	1987
"New Merger Guidelines"	1990
Deregulation or Regulation for Telecommunications in the 1990's	
"How Effective are State and Federal Regulations?"	1987

Conference Board Roundtable on Antitrust	
"Research and Production Joint Ventures"	1990
"Intellectual Property and Antitrust"	1987
Current Issues in Telephone Regulation	
"Economic Approaches to Market Dominance: Applicability of Contestable Markets"	1987
Harvard Business School Forum on Telecommunications	
"Regulation of Information Services"	1987
The Fowler Challenge: Deregulation and Competition in The Local Telecommunications Market	
"Why Reinvent the Wheel?"	1986
World Bank Seminar on Frontiers of Economics	
"What Every Economist Should Know About Contestable Markets"	1986
Bell Communications Research Conference on Regulation and Information	
"Fuzzy Regulatory Rules"	1986
Karl Eller Center Forum on Telecommunications	
"The Changing Economic Environment in Telecommunications: Technological Change and Deregulation"	1986
Railroad Accounting Principles Board Colloquium	
"Contestable Market Theory and ICC Regulation"	1986
Canadian Embassy Conference on Current Issues in Canadian -- U.S. Trade and Investment	
"Regulatory Revolution in the Infrastructure Industries"	1985
Eagleton Institute Conference on Telecommunications in Transition	
"Industry in Transition: Economic and Public Policy Overview"	1985
Brown University Citicorp Lecture	
"Logic of Regulation and Deregulation"	1985
Columbia University Communications Research Forum	
"Long Distance Competition Policy"	1985
American Enterprise Institute Public Policy Week	
"The Political Economy of Regulatory Reform"	1984
MIT Communications Forum	
"Deregulation of AT&T Communications"	1984

Bureau of Census Longitudinal Establishment Data File and Diversification Study Conference "Potential Uses of The File"	1984
Federal Bar Association Symposium on Joint Ventures "The Economics of Joint Venture Assessment"	1984
Hoover Institute Conference on Antitrust "Antitrust for High-Technology Industries"	1984
NSF Workshop on Predation and Industrial Targeting "Current Economic Analysis of Predatory Practices"	1983
The Institute for Study of Regulation Symposium: Pricing Electric, Gas, and Telecommunications Services Today and for the Future "Contestability As A Guide for Regulation and Deregulation"	1984
University of Pennsylvania Economics Day Symposium "Contestability and Competition: Guides for Regulation and Deregulation"	1984
Pinhas Sapir Conference on Economic Policy in Theory and Practice "Corporate Governance and Market Structure"	1984
Centre of Planning and Economic Research of Greece "Issues About Industrial Deregulation"	1984
	"Contestability: New Research Agenda" 1984
Hebrew and Tel Aviv Universities Conference on Public Economics "Social Welfare Dominance Extended and Applied to Excise Taxation"	1983
NBER Conference on Industrial Organization and International Trade "Perspectives on Horizontal Mergers in World Markets"	1983
Workshop on Local Access: Strategies for Public Policy "Market Structure and Government Intervention in Access Markets"	1982
NBER Conference on Strategic Behavior and International Trade "Industrial Strategy with Committed Firms: Discussion"	1982
Columbia University Graduate School of Business, Conference on Regulation and New Telecommunication Networks "Local Pricing in a Competitive Environment"	1982
International Economic Association Roundtable Conference on New Developments in the Theory of Market Structure	

"Theory of Contestability"	1982
"Product Dev., Investment, and the Evolution of Market Structures"	1982
N.Y.U. Conference on Competition and World Markets: Law and Economics	
"Competition and Trade Policy--International Predation"	1982
CNRS-ISPE-NBER Conference on the Taxation of Capital	
"Welfare Effects of Investment Under Imperfect Competition"	1982
Internationales Institut für Management und Verwaltung Regulation Conference	
"Welfare, Regulatory Boundaries, and the Sustainability of Oligopolies"	1981
NBER-Kellogg Graduate School of Management Conference on the	
Econometrics of Market Models with Imperfect Competition	
"Discussion of Measurement of Monopoly Behavior: An	
Application to the Cigarette Industry"	1981
The Peterkin Lecture at Rice University	
"Deregulation: Ideology or Logic?"	1981
FTC Seminar on Antitrust Analysis	
"Viewpoints on Horizontal Mergers"	1982
"Predation as a Tactical Inducement for Exit"	1980
NBER Conference on Industrial Organization and Public Policy	
"An Economic Definition of Predation"	1980
The Center for Advanced Studies in Managerial Economics Conference on The Economics of	
Telecommunication	
"Pricing Local Service as an Input"	1980
Aspen Institute Conference on the Future of the Postal Service	
"Welfare Economics of Postal Pricing"	1979
Department of Justice Antitrust Seminar	
"The Industry Performance Gradient Index"	1979
Eastern Economic Association Convention	
"The Social Performance of Deregulated Markets for Telecom Services"	
1979	
Industry Workshop Association Convention	
"Customer Equity and Local Measured Service"	1979
Symposium on Ratemaking Problems of Regulated Industries	
"Pricing Decisions and the Regulatory Process"	1979

Woodrow Wilson School Alumni Conference "The Push for Deregulation"	1979
NBER Conference on Industrial Organization "Intertemporal Sustainability"	1979
World Congress of the Econometric Society "Theoretical Industrial Organization"	1980
Institute of Public Utilities Conference on Current Issues in Public Utilities Regulation "Network Access Pricing"	1978
ALI-ABA Conference on the Economics of Antitrust "Predatoriness and Discriminatory Pricing"	1978
AEI Conference on Postal Service Issues "What Can Markets Control?"	1978
University of Virginia Conference on the Economics of Regulation "Public Interest Pricing"	1978
DRI Utility Conference "Marginal Cost Pricing in the Utility Industry: Impact and Analysis"	1978
International Meeting of the Institute of Management Sciences "The Envelope Theorem"	1977
University of Warwick Workshop on Oligopoly "Industry Performance Gradient Indexes"	1977
North American Econometric Society Convention "Intertemporal Sustainability"	1979
"Social Welfare Dominance"	1978
"Economies of Scope, DAIC, and Markets with Joint Production"	1977
Telecommunications Policy Research Conference "Transition to Competitive Markets"	1986
"InterLATA Capacity Growth, Capped NTS Charges and Long Distance Competition"	1985
"Market Power in The Telecommunications Industry"	1984
"FCC Policy on Local Access Pricing"	1983
"Do We Need a Regulatory Safety Net in Telecommunications?"	1982
"Anticompetitive Vertical Conduct"	1981
"Electronic Mail and Postal Pricing"	1980
"Monopoly, Competition and Efficiency": Chairman	1979

"A Common Carrier Research Agenda"	1978
"Empirical Views of Ramsey Optimal Telephone Pricing"	1977
"Recent Research on Regulated Market Structure"	1976
"Some General Equilibrium Views of Optimal Pricing"	1975
National Bureau of Economic Research Conference on Theoretical Industrial Organization	
"Compensating Variation as a Measure of Welfare Change"	1976
Conference on Pricing in Regulated Industries: Theory & Application	
"Ramsey Optimal Pricing of Long Distance Telephone Services"	1977
NBER Conference on Public Regulation	
"Income Distributional Concerns in Regulatory Policy-Making"	1977
Allied Social Science Associations National Convention	
"Merger Guidelines and Economic Theory"	1990
Discussion of "Competitive Rules for Joint Ventures"	1989
"New Schools in Industrial Organization"	1988
"Industry Economic Analysis in the Legal Arena"	1987
"Transportation Deregulation"	1984
Discussion of "Pricing and Costing of Telecommunications Services"	1983
Discussion of "An Exact Welfare Measure"	1982
"Optimal Deregulation of Telephone Services"	1982
"Sector Differentiated Capital Taxes"	1981
"Economies of Scope"	1980
"Social Welfare Dominance"	1980
"The Economic Definition of Predation"	1979
Discussion of "Lifeline Rates, Succor or Snare?"	1979
"Multiproduct Technology and Market Structure"	1978
"The Economic Gradient Method"	1978
"Methods for Public Interest Pricing"	1977
Discussion of "The Welfare Implications of New Financial Instruments"	1976
"Welfare Theory of Concentration Indices"	1976
Discussion of "Developments in Monopolistic Competition Theory"	1976
"Hedonic Price Adjustments"	1975
"Public Good Attributes of Information and its Optimal Pricing"	1975
"Risk Invariance and Ordinally Additive Utility Functions"	1974
"Consumer's Surplus: A Rigorous Cookbook"	1974
University of Chicago Symposium on the Economics of Regulated Public Utilities	
"Optimal Prices for Public Purposes"	1976
American Society for Information Science	
"The Social Value of Information: An Economist's View"	1975
Institute for Mathematical Studies in the Social Sciences Summer Seminar	

"The Sustainability of Natural Monopoly"	1975
U.S.-U.S.S.R. Symposium on Estimating Costs and Benefits of Information Services "The Evaluation of the Economic Benefits of Productive Information"	1975
NYU-Columbia Symposium on Regulated Industries "Ramsey Optimal Public Utility Pricing"	1975

Research Seminars:

Bell Communications Research (2)	University of California, San Diego
Bell Laboratories (numerous)	University of Chicago
Department of Justice (3)	University of Delaware
Electric Power Research Institute	University of Florida
Federal Reserve Board	University of Illinois
Federal Trade Commission (4)	University of Iowa (2)
Mathematica	Universite Laval
Rand	University of Maryland
World Bank (3)	University of Michigan
Carleton University	University of Minnesota
Carnegie-Mellon University	University of Oslo
Columbia University (4)	University of Pennsylvania (3)
Cornell University (2)	University of Toronto
Georgetown University	University of Virginia
Harvard University (2)	University of Wisconsin
Hebrew University	University of Wyoming
Johns Hopkins University (2)	Vanderbilt University
M. I. T. (4)	Yale University (2)
New York University (4)	Princeton University (many)
Northwestern University (2)	Rice University
Norwegian School of Economics and Business Administration	Stanford University (5) S.U.N.Y. Albany

**Attachment 2: Expert Testimony Provided by Robert D. Willig in the Last Four
Years
September 2013**

1. In the matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless Including Commercial Mobile Services; Before the Federal Communications Commission; WT Docket No. 09-66; declaration, 9/30/09.
2. Cindy Cullen, Wendy Fleishman, on Behalf of Themselves and All Others Similarly Situated v. Albany Medical Center, Ellis Hospital, Northeast Health, Seton Health System, and St. Peter's Health Care Service, In the United States District Court for the Northern District of New York, Civil Action No. 06-CV-0765/ TJM/ DRH; expert report 2/29/2008; deposition 3/27-28/2008; expert report 9/4/2009; deposition 11/19-20/2009, declaration 12/28/2009.
3. In the Australian Competition Tribunal: Re: Application for Review of the Deemed Decision by the Commonwealth Treasurer of 23 May 2006 under Section 44H(9) of the Trade Practices Act 1974 (CTH) in Relation to the Application for Declaration of Services Provided by the Mount Newman Railway Line, By: Fortescue Metals Group Limited; Re: Application for Review of the Deemed Decision by the Commonwealth Treasurer of 27 October 2008 under Section 44H(1) of the Trade Practices Act 1974 (CTH) in Relation to the Application for Declaration of Services Provided by the Robe Railway By: Robe River Mining Co PTY LTD & ORS; Re: Application for Review of the Deemed Decision by the Commonwealth Treasurer of 27 October 2008 under Section 44H(1) of the Trade Practices Act 1974 (CTH) in Relation to the Application for Declaration of Services Provided by the Hamersley Rail Network, By: Hamersley Iron Co PTY LTD & ORS; Re: Application for Review of the Deemed Decision by the Commonwealth Treasurer of 27 October 2008 under Section 44H(1) of the Trade Practices Act 1974 (CTH) in Relation to the Application for Declaration of Services Provided by the Goldsworthy Railway, By: BHP Billiton Iron Ore PTY LTD and BHP Billiton Minerals PTY LTD; expert report 6/30/2009 and 9/18/2009, trial testimony 11/2/2009-11/6/2009.
4. Stagecoach Group PLC and Coach USA, Inc., et al, Acquisition of Control, Twin America, LLC, Before the Surface Transportation Board, Verified Statement of Professor Robert D. Willig, Submitted November 17, 2009.
5. In re: Rail Freight Fuel Surcharge Antitrust Litigation, In the United States District Court for the District of Columbia, MDL Docket No. 1869, Misc. No. 07-489 (PLF), expert report 8/1/2010, deposition 8/4/2010.
6. Before the Federal Reserve Bank: Docket Number R-1404: Proposed Rule on Debit Card Interchange Fees and Routing, written statement 2/22/2011.

7. Before the Surface Transportation Board: Docket Number EP 704: Review of Commodity, Boxcar, and TOFC/COFC Exemptions; written statement 1/31/2011; testimony at hearing 2/23, 24/2011.
8. New Zealand Commerce Commission vs. Malaysian Airline Systems Berhad, Ltd. and et. al.; High Court of New Zealand: CV 2008-404-8350, Brief of Evidence 4/28/2011, trial testimony 5/20/11 and 5/23-27/2011.
9. Before the Federal Communications Commission: Docket Number 11-65: For Consent to Assign or Transfer Control Licenses and Authorization, written reply statement 6/9/2011.
10. In Re: Checking Account Overdraft Litigation, MDL No. 2036 In the United States District Court for the Southern District of Florida, Miami Division, Case No. 09-MD-02036-JLK, Luquetta v. JPMorgan Chase Bank, Declaration In Support of JP Morgan Chase Bank, N.A.'s Opposition to Class Certification, June 16, 2011.
11. Before the Surface Transportation Board: Docket Number EP 705: Competition in the Rail Industry, written statement 4/12/2011, written reply statement 5/27/2011, testimony at hearing 6/22, 23/2011.
12. In the Matter of Rambus Inc. v. Micron Technology, Inc., et al. In the Superior Court of the State of California County of San Francisco, Civil Action No. 04-431105; expert report 11/08/2008; supplemental expert report 12/19/2008, deposition testimony 5/7/2009-5/8/2009, trial testimony 9/1,6,7/2011.
13. In Re McKesson Governmental Entities Average Wholesale Price Litigation, Master File No.: 1:08-CV-10843-PBS; The Board of County Commissioners of Douglas County, Kansas et al. v. McKesson Corp., expert report, April 14, 2010, Response Report, June 28, 2010; Related to Connecticut v. McKesson Corp., expert report, April 14, 2010; Related to Montana v. McKesson Corporation, expert report, November 8, 2010; Related to Oklahoma v. McKesson Corporation, expert report, November 8, 2010; San Francisco Health Plan, et al. v. McKesson Corporation, rebuttal expert report, 9/19/2011.
14. Before the Public Service Commission of Maryland, Case No.: 9271, In the Matter of the Merger of Exelon Corp. and Constellation Energy Group, Inc., written market power rebuttal testimony, 10/17/2011, written surrebuttal testimony 10/26/2011, hearing testimony, 11/2011.
15. In Re TFT-LCD (Flat Panel) Antitrust Litigation, In the United States District Court Northern District of California San Francisco Division, DELL Inc., et. al., v. SHARP Corporation, et al., Case No. 3:10-cv-01064 SI MDL No. 3:07-md-1827-SI, expert report 2/23/2012, deposition 4/18/2012.

16. In Re TFT-LCD (Flat Panel) Antitrust Litigation, In the United States District Court Northern District of California San Francisco Division, Motorola Mobility Inc. v. SHARP Corporation, *et al.*, Case No. 3:09-cv-05840SI MDL No. 3:07-md-1827-SI, expert report 2/23/2012, deposition 4/18/2012.
17. In Re TFT-LCD (Flat Panel) Antitrust Litigation, In the United States District Court Northern District of California San Francisco Division, AT&T Mobility Inc. v. SHARP Corporation, *et al.*, Case No. 09-cv-4997 SI MDL No. 07-m-1827-SI, expert report 2/27/2012, deposition 4/18/2012.
18. In Re TFT-LCD (Flat Panel) Antitrust Litigation, In the United States District Court Northern District of California San Francisco Division, BEST BUY CO., Inc., *et. al.*, v. AU OPTRONICS CORP., *et al.*, Case No. 10-cv-4572 SI MDL No. 07-md-1827-SI, expert report 3/5/2012, deposition 4/18/2012.
19. Clark R. Huffman and Brandi K. Winters, individually and on behalf of all others similarly situated vs. PRUDENTIAL INSURANCE COMPANY of AMERICA, In the United States District Court for the Eastern District of Pennsylvania, Civ. No. 2:10-cv-05135-EL, declaration 4/10/2012.
20. In re Prudential Insurance Company of America SGLI/VGLI Contract Litigation, CLASS ACTION, Master Case No. 3:11-md-02208-MAP, In the United States District Court for the District of Massachusetts, declaration 5/10/2012.
21. Australian Competition and Consumer Commission v. Singapore Airlines Cargo PTE LTD *et. al.*, Before the Federal Court of Australia, District Registry: New South Wales, Division: General, No. NSD 1980 of 2008, NSD 363 of 2009, NSD 876 of 2009 and NSD 1213 of 2009, affidavit and expert report 7/12/2012.
22. Bandspeed, Inc. v. Sony Electronics, Inc. *et al.* and Cambridge Silicon Radio Limited, Cause No. A-11-CV-771-LY, In the United States District Court for the Western District of Texas, Austin Division, expert report, 9/21/2012.
23. M&G Polymers USA, LLC v. CSX Transportation, Inc., Before the Surface Transportation Board, Docket Number NOR 42123, verified statement, 11/27/2012.
24. National Collegiate Athletic Association *et al.*, Plaintiffs, v. Christopher J. Christie *et al.*, Defendants, In the United States District Court for the District of New Jersey, Civil Action No. 3:12-cv-04947 (MAS) (LHG), expert report 11/21/2012, deposition 11/30/2012.
25. In Re Cathode Ray Tube (CRT) Antitrust Litigation, In the United States District Court Northern District of California San Francisco Division, Master

File No. CV-07-5944-SC MDL No. 1917, expert report 12/17/12, deposition 01/24/12.

26. In Re Titanium Dioxide Antitrust Litigation, In the United States District Court of Maryland Northern Division, Case No. 1:10-cv-00318-RDB, expert report 12/21/2012, deposition testimony 02/07/2013, 02/08/2013.
27. PPL EnergyPlus, LLC, et al., v. Douglas R.M. Nazarian, in his official capacity as Chairman of the Maryland Public Service Commission, et al., In the United States District Court of Maryland Northern Division, Case No. 1:12-cv-01286-MJG, expert report 12/21/2012, supplemental expert report 02/01/2013, deposition testimony 02/14/2013, trial testimony 03/08/2013.
28. PPL EnergyPlus, LLC, et al., v. Robert Hanna (originally, Lee A. Solomon), in his official capacity as President of the New Jersey Board of Public Utilities, et al., In the United States District Court for the District of New Jersey, Case No. 3:11-cv-00745-PGS-DEA, expert report 02/06/2013, deposition 02/14/2013 and 02/21/2013, and trial testimony 4/9-10/2013.
29. Total Petrochemicals & Refining USA, Inc. v. CSX Transportation, Inc., Before the Surface Transportation Board, Docket Number NOR 42121, verified statement, 06/20/2013.
30. Bandspeed Inc v. Garmin International, Inc. et al., In the United States District Court for the Western District of Texas, Austin Division, Cause No. A-11-CV-771-LY, expert report, 08/01/2013.

Attachment 3: List of Materials Relied Upon	
Expert Report of Robert D. Willig Relating to Direct Purchaser Class Action	
<i>In re Cathode Ray Tube Antitrust Litigation</i>	
<i>Bates Stamp/Title</i>	<i>Date</i>
<u>Depositions and Exhibits</u>	
30(b)(6) de Moor, Roger (PENAC)	31-Jul-12
30(b)(6) de Moor, Roger (PENAC)	1-Aug-12
30(b)(6) Heinecke, Jay (TAEC)	31-Jul-12
30(b)(6) Heiser, L. Thomas (HEDUS)	3-Jul-12
30(b)(6) Iwasawa, Toru (Hitachi)	11-Jul-12
30(b)(6) Kawashima, Yasuhiko (HDL)	18-Jul-12
30(b)(6) Kawashima, Yasuhiko (HDL)	19-Jul-12
30(b)(6) Kobayashi, Nobuhiko (HDL)	17-Jul-12
30(b)(6) Kurosawa, Koji (Toshiba)	30-Jul-12
30(b)(6) Lee, Jaemin (SDI)	6-Jun-12
30(b)(6) Lee, Jaemin (SDI)	7-Jun-12
30(b)(6) Nakano, Takashi (MTPD)	13-Jul-12
30(b)(6) Nishiyama, Hirokazu (Panasonic, MTPD)	17-Jul-12
30(b)(6) Nishiyama, Hirokazu (Panasonic, MTPD)	18-Jul-12
30(b)(6) Panosian, Steve (SEA)	17-Jul-12
Son, Michael (SDI)	5-Feb-13
Son, Michael (SDI)	6-Feb-13
30(b)(6) Tobinaga, Tatsuo (Panasonic, MTPD)	16-Jul-12
30(b)(6) Tobinaga, Tatsuo (Panasonic, MTPD)	17-Jul-12
30(b)(6) Uchiyama, Yoshiaki (TACP)	1-Aug-12
30(b)(6) Wolff, Edwin (PNA)	18-Jul-12
<u>Expert Materials</u>	
Expert Report of Robert D. Willig relating to Indirect Purchaser Plaintiffs	17-Dec-12
Rebuttal Declaration of Robert D. Willig	25-Mar-13
Expert Report of Jeffrey J. Leitzinger, Ph.D.	14-May-13
Corrected Expert Report of Jeffrey J. Leitzinger, Ph.D.	1-Aug-13
<u>Expert Depositions</u>	
Leitzinger, Jeffrey	22-Aug-13
<u>Legal</u>	
Direct Purchaser Plaintiffs' Consolidated Amended Complaint	16-Mar-09
<u>Academic Texts and Articles</u>	
Aldrich, John, "Correlations Genuine and Spurious in Pearson and Yule," <i>Statistical Science</i> , Vol. 10, No. 4, 1995, pp. 364-376	
Bali, S. P., <i>Colour Television: Theory and Practice</i> , Tata McGraw-Hill, 1994	
Bulow, J. I., J. D. Geanakoplos, and P. D. Klemperer, "Multimarket Oligopoly: Strategic Substitutes and Complements," <i>Journal of Political Economy</i> , Vol. 93, No. 3., 1985, pp. 488-511	
Carlton, Dennis and Jeffrey Perloff, <i>Modern Industrial Organization</i> , 3rd edition, Addison-Wesley, 1999	
Church, Jeffrey and Roger Ware, <i>Industrial Organization: A Strategic Approach</i> , McGraw-Hill, 2000	
Davis, P., & Garcés, E., <i>Quantitative Techniques for Competition and Antitrust Analysis</i> , Princeton University Press, 2010	
Diewert, W. E., "The Early History of Price Index Research & Fisher Ideal Output, Input and Productivity Indexes Revisited," in W.E. Diewert and A.O. Nakamura (Eds.), <i>Essays in Index Number Theory</i> , Volume I, Elsevier Science Publishers, 1993	
Graf, R. F., <i>Modern Dictionary of Electronics</i> , 7th Edition, Butterworth-Heinemann, 1999	
Grout, Paul A. and Silvia Sonderegger, "Predicting Cartels: Economic Discussion Paper," A Report Prepared for the Office of Fair Trading, OFT773, March 2005	
Gujarati, Damodar N., <i>Basic Econometrics</i> , 3rd edition, McGraw-Hill, 1995	
Harrington, Joseph E., "Detecting Cartels," in P. Buccirossi (Eds.), <i>Advances in the Economics of Competition Law</i> , MIT Press, 2007	
Motta, Massimo, <i>Competition Policy: Theory and Practice</i> , Cambridge University Press, 2004	
Scherer, F.M., <i>Industrial Market Structure and Economic Performance</i> , 2nd edition, Houghton Mifflin, 1980	
<u>Industry Studies</u>	
Fuji Chimera Research Institute, <i>Forecasts and Trends for Flat Panel Displays and Their Applications</i> , 2000	
Fuji Chimera Research Institute, <i>Flat Panel Display Applications: Trends and Forecasts</i> , 2001	
Fuji Chimera Research Institute, <i>Flat Panel Display Applications: Trends and Forecasts</i> , 2007	
<u>Public Documents</u>	

Highly Confidential

Attachment 3: List of Materials Relied Upon
Expert Report of Robert D. Willig Relating to Direct Purchaser Class Action
In re Cathode Ray Tube Antitrust Litigation

<i>Bates Stamp/Title</i>	<i>Date</i>
International Labour Organization, <i>Consumer Price Index Manual: Theory and Practice</i> , 2004	
United States International Trade Commission, <i>Color Picture Tubes from Canada, Japan, Korea, and Singapore</i> , Investigations Nos. 731-TA-367-370 (Review), Determinations and Views of the Commission, USITC Publication No 3291, 2000	

Bates Documents

CHU00028385-386
 CHU00028599-600
 CHU00028638.01E-.02E
 CHU00028674
 CHU00028707-710
 CHU00028713-714
 CHU00028763.01E
 CHU00028763-767
 CHU00028952-954
 CHU00029138-143
 CHU00029171-174
 CHU00029262-264
 CHU00030020-025
 CHU00030071-078
 CHU00030670-674
 CHU00030809-814
 CHU00031113-114
 CHU00031142-147
 CHU00031249-252
 CHU00036392-393
 CHU00036394-395
 CHU00154658-694
 MTPD-0300203-250
 PHLP-CRT-049353
 SDCRT-0021278-294
 SDCRT-0086662-664
 TAEC00006084-100
 TAEC00006176-208

Data**Chunghwa**

ADDR1.txt
 ADDR2.txt
 ADDR3.txt
 CHWA00000002 (CPTM Transactional Records)_CDT 1994-2006.txt
 CHWA00000002 (CPTM Transactional Records)_CPT 1994_1999.txt
 CHWA00000002 (CPTM Transactional Records)_CPT 2000_2006.txt
 CHWA00000004 (CPTM Customer Records).txt
 CHWA00000005 (CPTF Transactional Records)_1997_2002.txt
 CHWA00000005 (CPTF Transactional Records)_2003_2005.txt
 CHWA00000005 (CPTF Transactional Records)_2006.txt
 CHWA00000007 (CPTF Customer Records).txt
 CHWA00000009 (CPTT Transactional Records 1994-1998)_1994.txt
 CHWA00000009 (CPTT Transactional Records 1994-1998)_1995.txt
 CHWA00000009 (CPTT Transactional Records 1994-1998)_1996.txt
 CHWA00000009 (CPTT Transactional Records 1994-1998)_1997.txt
 CHWA00000009 (CPTT Transactional Records 1994-1998)_1998.txt
 CHWA00000011 (CPTT Transactional Records 1999-2003)_1999.txt
 CHWA00000011 (CPTT Transactional Records 1999-2003)_2000.txt
 CHWA00000011 (CPTT Transactional Records 1999-2003)_2001.txt
 CHWA00000011 (CPTT Transactional Records 1999-2003)_2002.txt
 CHWA00000011 (CPTT Transactional Records 1999-2003)_2003.txt
 CHWA00000012 (CPTT Customer Records 1994-1998).txt
 CHWA00000014 (CPTT Customer Records 1999-2003).txt
 CURNM1.txt
 PINC.txt

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Expert Report of Robert D. Willig Relating to Direct Purchaser Class Action
In re Cathode Ray Tube Antitrust Litigation

Bates Stamp/Title

Date

Hitachi

abbr_of_del_dest.txt
 abbr_of_order.txt
 customer_in_english.txt
 eu.txt
 Foreign16.txt
 Foreign17.txt
 Foreign18.txt
 Foreign19.txt
 Foreign28.txt
 Foreign5.txt
 Foreign55.txt
 Foreign56.txt
 Foreign57.txt
 Foreign58.txt
 Foreign59.txt
 Foreign7.txt
 HAL_CRT00000051_02_Aug_December.txt
 HAL_CRT00000051_03.txt
 HAL_CRT00000051_04.txt
 HAL_CRT00000051_05.txt
 HAL-CRT00001771.txt
 HDP_CRT00018516_T.txt
 HDP_CRT00018516_T2.txt
 HEDUS-CRT00179555.txt

LGE

LGE00057028.txt
 LGE00057277.txt
 LGE00057335.txt
 LGE00057547.txt
 LGE00057554.txt
 LGE00057582.txt
 LGE00057608.txt
 LGE00057776.txt
 LGEUSA_MN_1997.txt
 LGEUSA_MN_1998.txt
 LGEUSA_MN_1999.txt
 LGEUSA_MN_2000.txt
 LGEUSA_MN_2001.txt
 LGEUSA_MN_2002.txt
 LGEUSA_MN_2003.txt
 LGEUSA_MN_2004.txt
 LGEUSA_MN_2005.txt
 LGEUSA_TV_1997.txt
 LGEUSA_TV_1998.txt
 LGEUSA_TV_1999.txt
 LGEUSA_TV_2000.txt
 LGEUSA_TV_2001.txt
 LGEUSA_TV_2002.txt
 LGEUSA_TV_2003.txt
 LGEUSA_TV_2004.txt
 LGEUSA_TV_2005.txt
 LGEUSA_TV_2006.txt
 LGEUSA_TV_2007.txt
 ZENCRT44_HC_a.txt
 ZENCRT44_HC_b.txt
 ZENCRT44_HC_c.txt
 ZENCRT44_HC_d.txt
 ZENCRT44_HC_e.txt
 ZENCRT44_HC_f.txt
 ZENCRT44_HC_g.txt
 ZENCRT44_HC_h.txt

Highly Confidential

Attachment 3: List of Materials Relied Upon
Expert Report of Robert D. Willig Relating to Direct Purchaser Class Action
In re Cathode Ray Tube Antitrust Litigation

Bates Stamp/Title

Date

ZENCRT44_HC_i.txt
 ZENCRT45_HC.txt
 ZENCRT46_HC_a.txt
 ZENCRT46_HC_b.txt
 ZENCRT46_HC_c.txt

LPD

Billing_00Apr.txt
 Billing_00Aug.txt
 Billing_00Dec.txt
 Billing_00Feb.txt
 Billing_00Jan.txt
 Billing_00Jul.txt
 Billing_00Jun.txt
 Billing_00Mar.txt
 Billing_00May.txt
 Billing_00Nov.txt
 Billing_00Oct.txt
 Billing_00Sep.txt
 Billing_01Apr.txt
 Billing_01Aug.txt
 Billing_01Dec.txt
 Billing_01Feb.txt
 Billing_01Jan.txt
 Billing_01Jul.txt
 Billing_01Jun.txt
 Billing_01Mar.txt
 Billing_01May.txt
 Billing_01Nov.txt
 Billing_01Oct.txt
 Billing_01Sep.txt

Exhibit 1: Regressions of Changes in Actual Price on Changes in Target Price

Row	Dependent Variable	Independent Variables			Merchant Sales Only?	Transfer Sales Only?	Results				Robustness Checks		
	Change in Actual Price (Level of Aggregation)	Change in Alleged Target Price (Level of Aggregation)	Change in Macroeconomic Variables	Change in Negotiated Price Currency-to-USD Exchange Rate Variables			Number of Observations	Estimated Coefficient on Change in:		R-Squared	Range of Estimated Coefficients on Change in:		R-Squared Range
								Target Price	Lagged Target Price		Target Price	Lagged Target Price	
1	Model, Customer, Quarter	Manufacturer, Application, Size, Finish, Quarter					5,315	0.157***	-	0.033	0.136*** - 0.197***	-	0.012 - 0.050
2	Model, Customer, Quarter	Manufacturer, Application, Size, Finish, Quarter			X		5,019	0.168***	-	0.036	0.147*** - 0.206***	-	0.013 - 0.054
3	Model, Customer, Quarter	Manufacturer, Application, Size, Finish, Quarter				X	296	0.036	-	0.003	-0.001 - 0.036	-	0.000 - 0.003
4	Model, Customer, Quarter	Manufacturer, Application, Size, Finish, Quarter	X				3,615	0.139***	-	0.065	0.111*** - 0.177***	-	0.025 - 0.081
5	Model, Customer, Currency, Quarter	Manufacturer, Application, Size, Finish, Quarter		X			5,318	0.144***	-	0.111	0.126*** - 0.198***	-	0.042- 0.158
6	Model, Customer, Quarter	Manufacturer, Application, Size, Finish, Quarter					3,615	0.160***	0.096***	0.043	0.107*** - 0.200***	0.096*** - 0.110***	0.017 - 0.064

Sources:

- (1) Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LG, LPD, SDI, and Toshiba;
- (2) Leitzinger Report backup: "Target Prices_part1.csv," "Target Prices_part2.csv," and "Target Prices_part3.csv;"
- (3) DisplaySearch Data; Bureau of Labor Statistics; OECD StatExtracts Database.

Exhibit 1: Notes for Regressions of Changes in Actual Price on Changes in Target Price

Notes:

- (1) An actual price observation represents the sales-quantity-weighted average actual prices for a given model, customer, and quarter (rows 1-4 and row 6) or for a given model, customer, the currency in which the prices were negotiated ("negotiated currency"), and quarter (row 5) using global CRT sales data for Q1 1995 to Q4 2007;
- (2) A target price observation represents the simple average of the target prices identified by Dr. Leitzinger for a given manufacturer, application (CDT/CPT), size, finish (bare/ITC), and quarter;
- (3) Actual and target price changes represent the average quarterly percentage change (divided by 100) in the actual price for a given model and customer (and negotiated currency in row 5) and the average quarterly percentage change (divided by a hundred) in the target price for the corresponding manufacturer, application, size, and finish between quarters t and $t-x$, where x is defined as the smallest positive integer (possibly equal to 1) for which there were actual prices for the model-customer (and currency in row 5) and target prices for the panel in quarters t and $t-x$. That is, the actual and target prices changes were calculated over the same period of time, and x represents the shortest period over which this was possible;
- (4) Prices were excluded as outliers as follows: For each quarter in which a given CRT model was sold to a given customer, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as "very large price decreases" or "very large price increases," respectively. Prices for a given model, customer, and quarter were excluded as outliers if: (a) the price for the model and customer experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer, or vice versa; (b) it was the first quarter in which the model was sold to the customer and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer; or (c) it was the last quarter in which the model was sold to the customer and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer;
- (5) The following observations were also excluded: (a) observations for which the model number, customer name, size, or finish (or currency for the model presented in row 5) were missing; (b) sales between integrated entities that sold CRTs; (c) observations with more than four quarters between observed pairs of actual price changes and target price changes; and (d) observations identified by Dr. Leitzinger as outliers;

** Notes continued on next page.*

Exhibit 1: Notes (Continued) for Regressions of Changes in Actual Price on Changes in Target Price

Notes:

(6) The macroeconomic variables included in the model presented in row 4 are: (a) the unemployment rate and total industrial production for the G7 countries (the United States, the United Kingdom, Germany, France, Italy, Japan, and Canada); (b) the BLS producer price index for machine-made pressed and blown lighting, automotive, and electronic glassware; and (c) total quarterly LCD shipments by application beginning in 1999. They are the same macroeconomic variables included in the model presented in Figure 7 of the Leitzinger Report. The change in each macroeconomic variable represents the average quarterly percentage change (divided by a hundred) in that variable between quarters t and $t-x$, where t and x are defined according to Note #3 above (the only exception is the change in the G7 unemployment rate, which represents the average quarterly percentage point change in that variable between quarters t and $t-x$);

(7) The exchange rate used in row 5 represents the ratio for quarter t between the average price in the negotiated currency and the U.S. dollar average price (both weighted by sales volume) for a given model, customer, and negotiated currency. The change in the exchange rate represents the percentage change (divided by a hundred) in the exchange rate between quarters t and $t-x$, where t and x are defined according to Note #3 above. The model presented in row 5 includes the change in the exchange rate and interactions between this variable and a series of eight "dummy" variables that take the value 1 if the currency in which the actual price was negotiated is the Deutsche Mark, Euro, Japanese Yen, South Korean Won, Malaysian Ringgit, Chinese Yuan, Taiwan New Dollar, or U.S. Dollar respectively, and zero otherwise. To avoid collinearity there is no dummy variable that equals 1 for prices negotiated in Brazil Real;

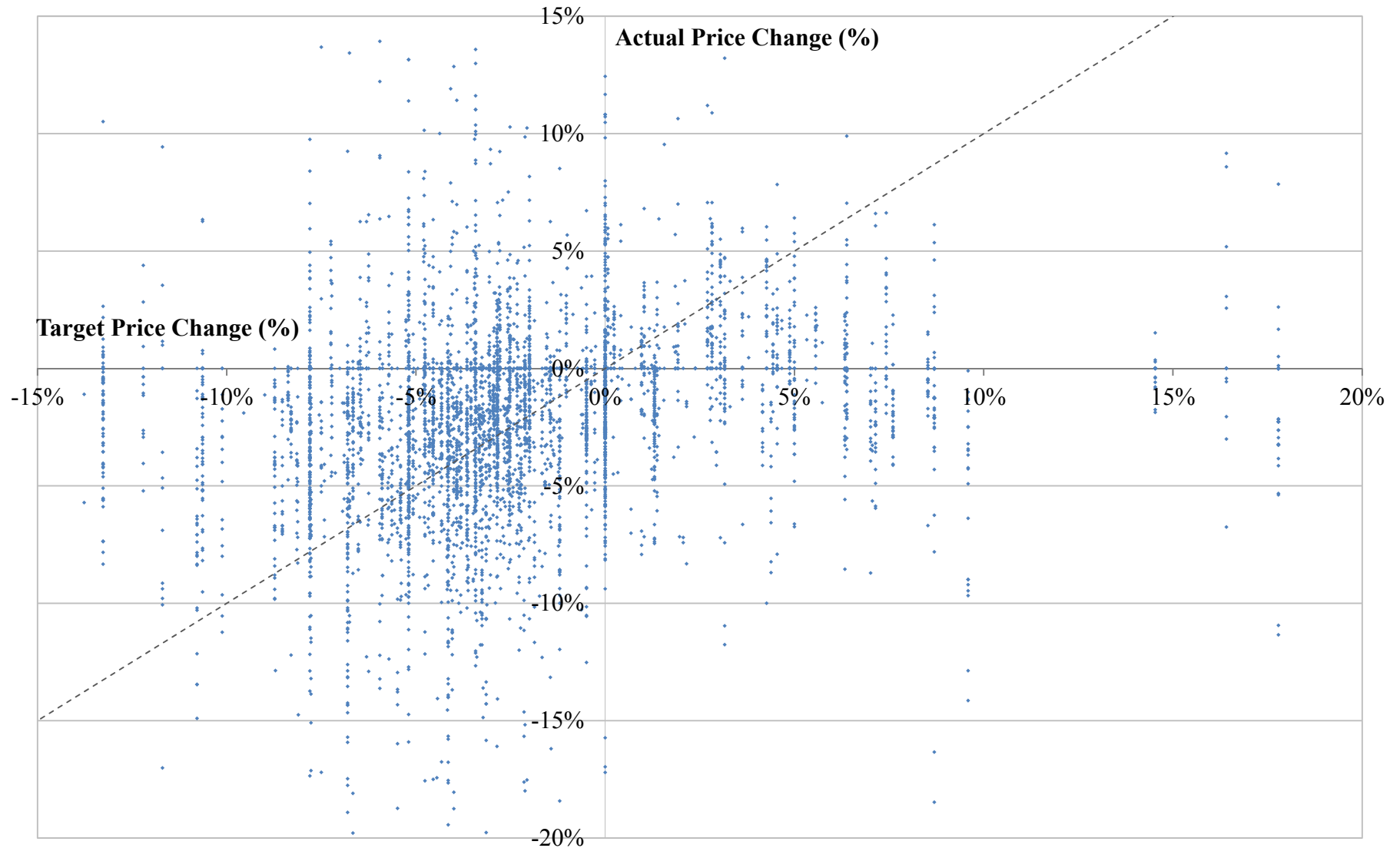
(8) I performed the following robustness checks on each of the regressions presented in the above table:

- weighting observations by sales volume;
- limiting the maximum period between pairs of actual and target price changes to one quarter;
- aggregating actual prices by "panel" (defined by Dr. Leitzinger as all sales to the same customer of models that share the same manufacturer, application, size, and finish) and quarter (or by panel, currency, and quarter in the model presented in row 5);
- using clustered standard errors grouped by panel;

The range of results from these robustness checks are reported in the table;

(9) (***) indicates that the estimated coefficient is different from zero at the 0.1% significance level.

**Exhibit 2: Actual Price Change vs. Target Price Change
by Model, Customer, and Quarter**



Sources: (1) Global tubes data for Chunghwa, Hitachi, MTPD, Panasonic, LG, LPD, SDI, and Toshiba for the class period; (2) Leitzinger Report backup: "Target Prices_part1.csv," "Target Prices_part2.csv," and "Target Prices_part3.csv."

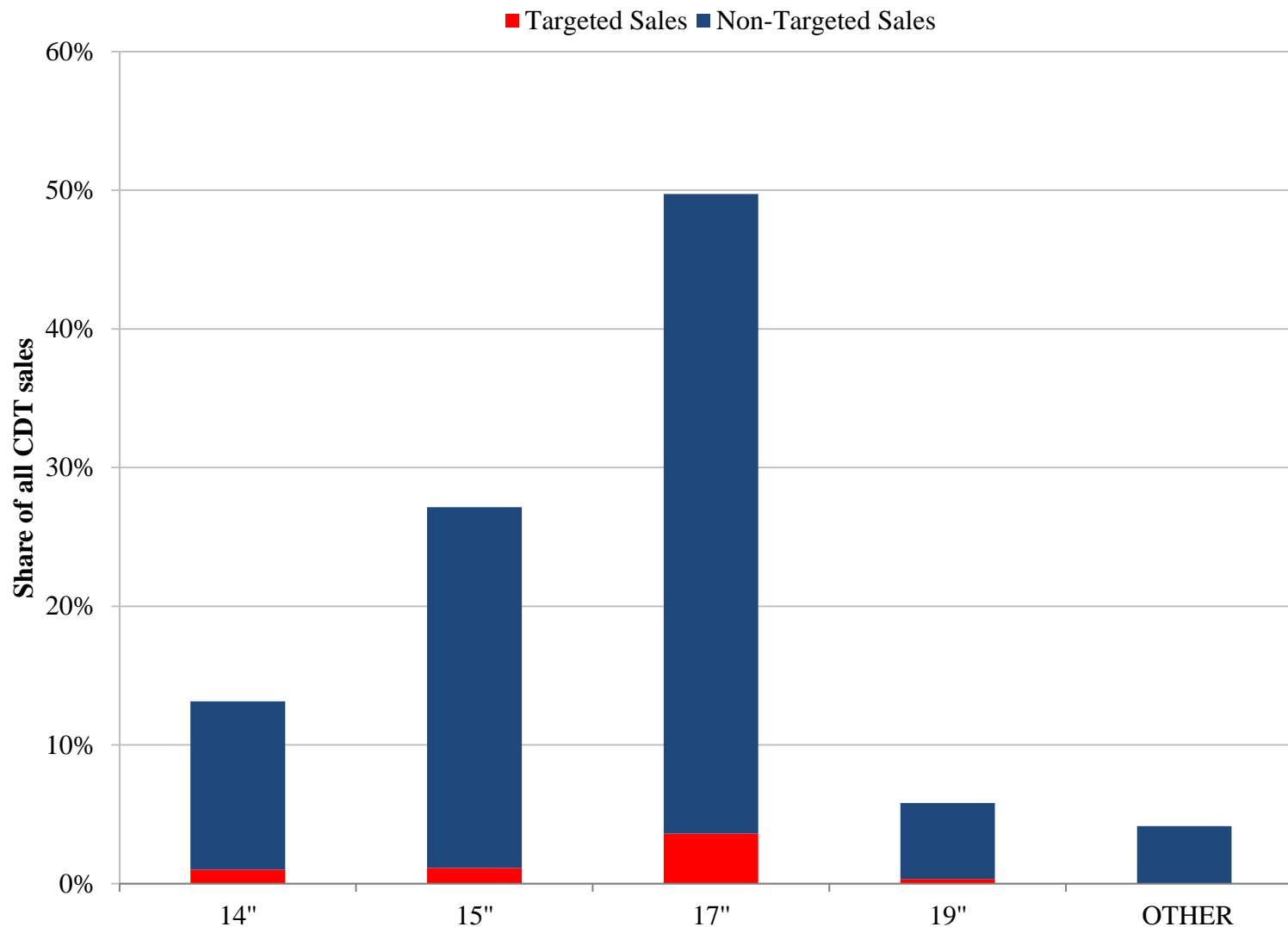
Exhibit 2: Notes for Actual Price Change vs. Target Price Change by Model, Customer, and Quarter

Notes:

- (1) An actual price observation represents the sales-quantity-weighted average actual prices for a given model, customer, and quarter using global CRT sales data for Q1 1995 to Q4 2007;
- (2) A target price observation represents the simple average of the target prices identified by Dr. Leitzinger for a given manufacturer, application (CDT/CPT), size, finish (bare/ITC) and quarter;
- (3) Actual and target price changes represent the average quarterly percentage change (divided by 100) in the actual price for a given model and customer and the average quarterly percentage change (divided by a hundred) in the target price for the corresponding manufacturer, application, size, and finish between quarters t and $t-x$, where x is defined as the smallest positive integer (possibly equal to 1) for which there were actual prices for the model-customer and target prices for the panel in quarters t and $t-x$. That is, the actual and target prices changes were calculated over the same period of time, and x represents the shortest period over which this was possible;
- (4) Prices were excluded as outliers as follows: For each quarter in which a given CRT model was sold to a given customer, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as “very large price decreases” or “very large price increases,” respectively. Prices for a given model, customer, and quarter were excluded as outliers if: (a) the price for the model and customer experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer, or vice versa; (b) it was the first quarter in which the model was sold to the customer and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer; or (c) it was the last quarter in which the model was sold to the customer and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer;
- (5) The following observations were also excluded: (a) observations for which the model number, customer name, size, or finish were missing; (b) sales between integrated entities that sold CRTs; (c) observations with more than four quarters between observed pairs of actual price changes and target price changes; and (d) observations identified by Dr. Leitzinger as outliers;
- (6) A *de minimis* number of observations are outside the bounds of the x or y axis.

Exhibit 3A: Shares of CDTs Sold: Targeted vs. Non-Targeted

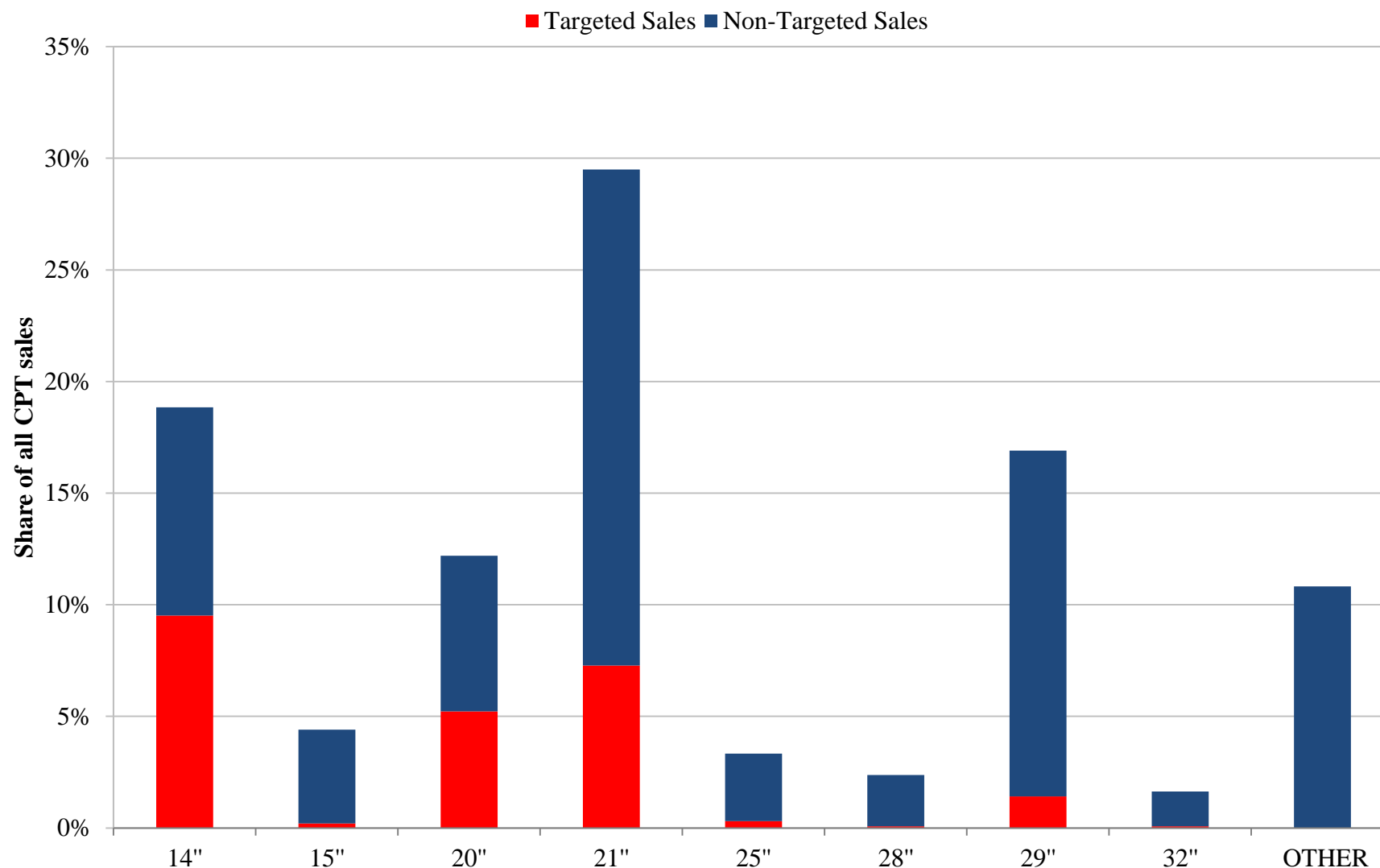
(Based on Target Prices Identified by Dr. Leitzinger)



Sources: (1) Global tubes data for Chunghwa, Hitachi, MTPD, Panasonic, LG, LPD, SDI, and Toshiba; (2) Leitzinger Report backup: "Target Prices_part1.csv," "Target Prices_part2.csv," and "Target Prices_part3.csv."

Exhibit 3B: Shares of CPTs Sold: Targeted vs. Non-Targeted

(Based on Target Prices Identified by Dr. Leitzinger)



Sources: (1) Global tubes data for Chunghwa, Hitachi, MTPD, Panasonic, LG, LPD, SDI, and Toshiba; (2) Leitzinger Report backup: "Target Prices_part1.csv," "Target Prices_part2.csv," and "Target Prices_part3.csv."

Exhibit 3: Notes for Shares of CPT/CDTs Sold: Targeted vs. Non-Targeted

Notes:

- (1) CRT sales were classified as "targeted" if Dr. Leitzinger identified an alleged target price for the corresponding manufacturer, application (CDT/CPT), size, finish (bare/ITC), and quarter and "non-targeted" if he did not identify an alleged applicable target price.
- (2) The targeted share of CRT sales and non-targeted share of CRT sales were then calculated by application and size using global CRT sales data for March 1, 1995 to November 25, 2007;
- (3) Observations identified by Dr. Leitzinger as outliers were excluded;
- (4) For CDTs in Exhibit 3A and CPTs in Exhibit 3B, the "other" category represents all sizes of the respective application for which Dr. Leitzinger did not identify any target prices.

Exhibit 4: Target Prices Are Poor Predictors of Actual CRT Prices

Dependent Variable	Independent Variables	Outliers Excluded?	Level of Actual Price Aggregation	Observations (N)	Probability of Errors Greater than X% when Predicting Actual CRT Prices Based on Target Prices		
					X=5%	X=10%	X=15%
Actual Price	Target Price, Lagged Target Price	No	Panel, Quarter	3,151	71.8%	48.0%	30.1%
Actual Price	Target Price, Lagged Target Price	Yes	Model, Customer, Quarter	3,856	73.1%	50.2%	32.5%

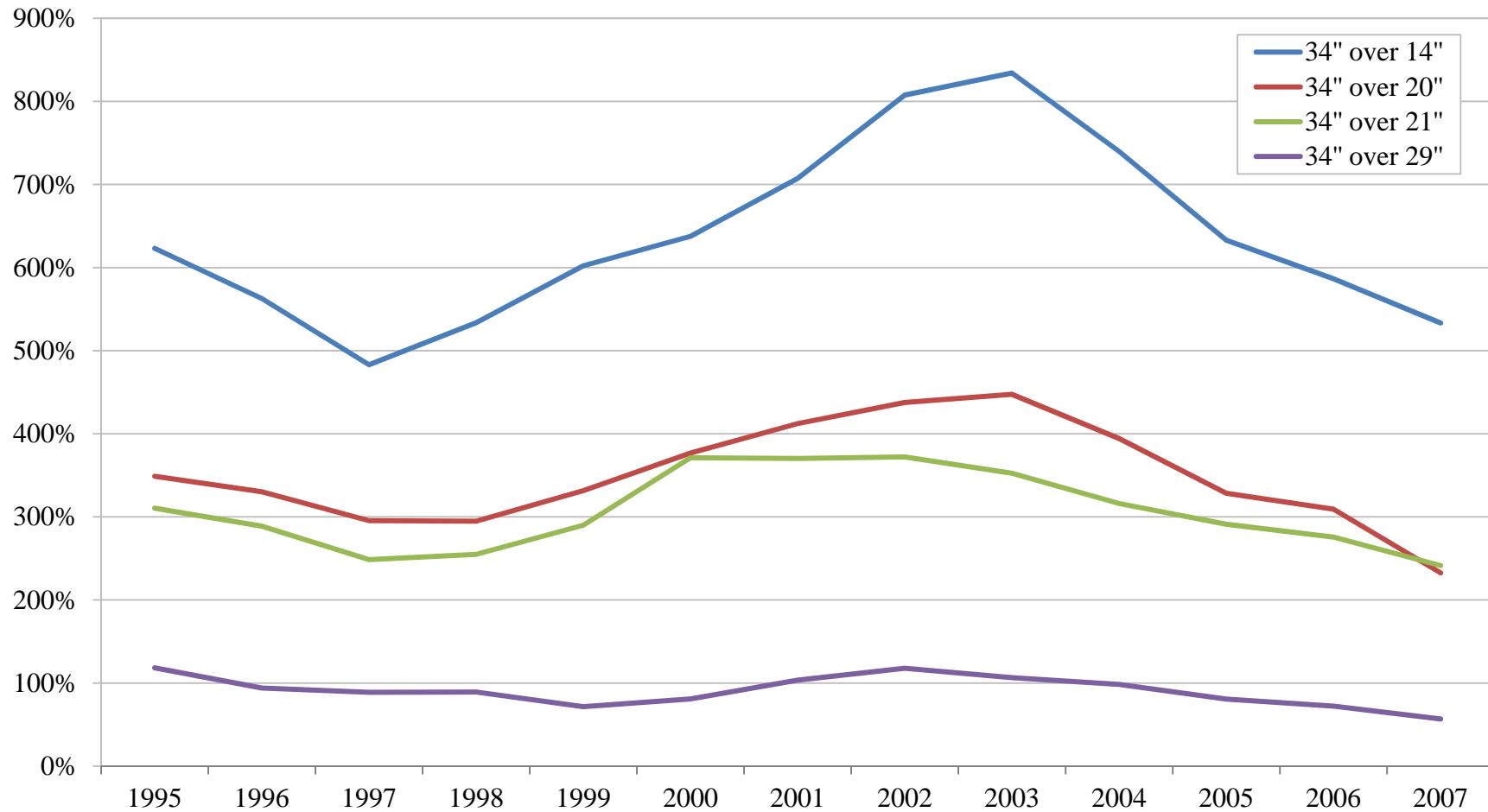
Sources: (1) Global tubes data for Chunghwa, Hitachi, MTPD, Panasonic, LG, LPD, SDI, and Toshiba for the class period; (2) Leitzinger Report backup: “Target Prices_part1.csv,” “Target Prices_part2.csv,” and “Target Prices_part3.csv.”

Exhibit 4: Notes for Target Prices Are Poor Predictors of Actual CRT Prices

Notes:

- (1) The model presented in row 1 is based on the same data that Dr. Leitzinger used in the model presented in Figure 7 of his report. Specifically, an actual price observation represents the sales-quantity-weighted average actual prices for a given manufacturer, application (CDT/CPT), size, finish (bare/ITC), customer, and quarter using global CRT sales data for Q1 1995 to Q4 2007, and a target price observation represents the simple average of the target prices identified by Dr. Leitzinger for the corresponding manufacturer, application (CDT/CPT), size, finish (bare/ITC) and quarter;
- (2) In the model presented in row 2, a target price observation is defined in the same manner as in the model presented in row 1, but an actual price observation represents the sales-quantity-weighted average actual prices for a given model, customer, and quarter using global CRT sales data for Q1 1995 to Q4 2007;
- (3) In the model presented in row 2, actual prices were excluded as outliers as follows: For each quarter in which a given CRT model was sold to a given customer, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as “very large price decreases” or “very large price increases,” respectively. Prices for a given model, customer, and quarter were excluded as outliers if: (a) the price for the model and customer experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer, or vice versa; (b) it was the first quarter in which the model was sold to the customer and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer; or (c) it was the last quarter in which the model was sold to the customer and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer;
- (4) The following observations were also excluded: (a) observations identified by Dr. Leitzinger as outliers; and (b) observations for which the model number, customer name, size, or finish were missing (from the model presented in row 1 only);
- (5) The reported probabilities that the predicted actual prices would be greater than X% are statistically significant at the 95% confidence level. Specifically, they are based on the 5% lower bound on the variance of the prediction errors.

Exhibit 5: CPT Size Price Premiums Implied by Dr. Leitzinger's Hedonic Regressions



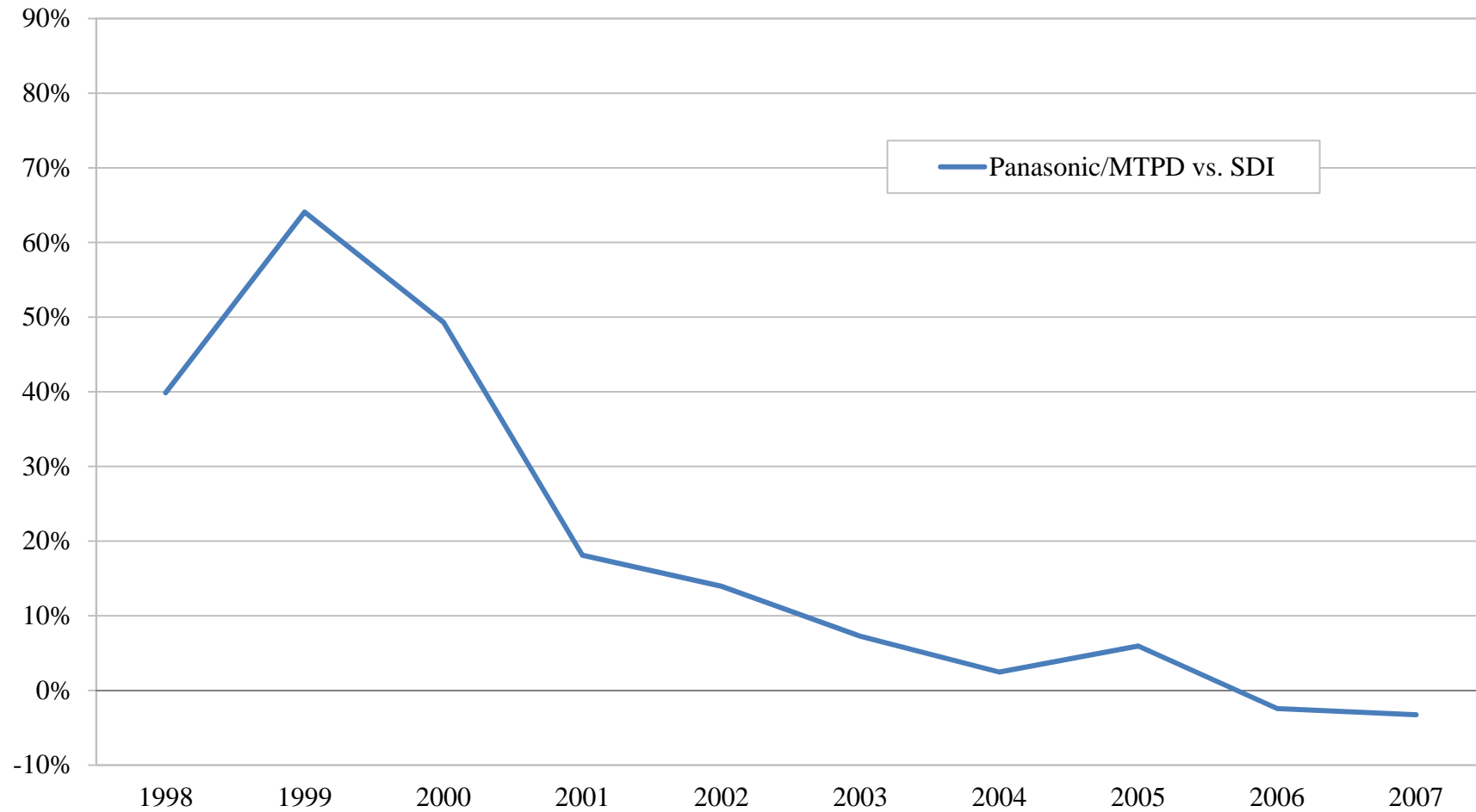
Source: Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LG, SDI, and Toshiba.

Exhibit 5: Notes for CPT Size Price Premiums Implied by Dr. Leitzinger's Hedonic Regressions

Notes:

- (1) Size price premiums were calculated by estimating regressions identical to those reported in Figure 5 of the Leitzinger Report;
- (2) The analysis is based on identical data to those used by Dr. Leitzinger in the analysis presented in Figure 5 of his report;
- (3) The data cover the 1995-2007 time period;
- (4) An observation represents a specific CPT transaction or the total sales for a specific CPT model, customer, and month; this is the format in which the CPT sales data were produced;
- (5) The dependent variable in each regression is the natural log of the price, and the explanatory variables are: sales quantities and a dummy variable for each manufacturer, size, finish (bare/ITC), and aspect ratio (wide/standard screen);
- (6) The average size price premiums for each size pair and year were calculated using the following formula: (a) the size price premium for a given size pair and quarter was calculated as: $\text{exponential}(\text{the estimated coefficient on the size } X\text{-inch dummy}) - 1$, where $X = 14, 20, 21, \text{ or } 29$ inches; (b) the premiums for a given size pair were then averaged across the quarters in a given year;
- (7) The CPT sizes analyzed were the only sizes that accounted for at least 9% of all CPT sales over the analysis period;
- (8) A quarterly regression was only included in the calculation of the annual size premium if it satisfied the following two criteria: (a) the regression included at least 100 observations; (b) the regression included at least ten observations of considerable quantity (i.e., not in the bottom quartile of the quantity distribution in the overall data) for each of the CPT sizes being compared.

Exhibit 6: CPT Manufacturer Price Premiums Implied by Dr. Leitzinger's Hedonic Regressions



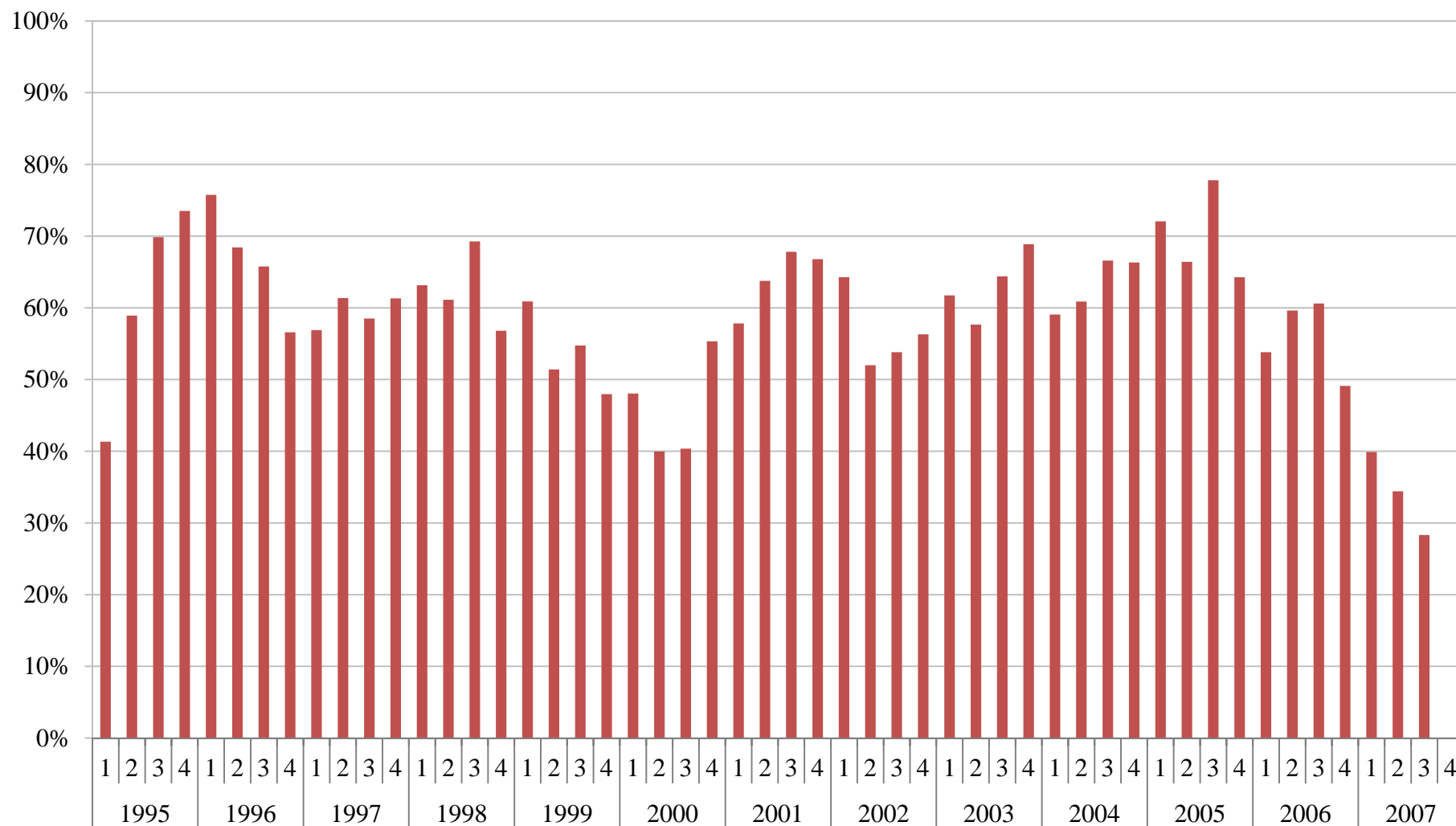
Source: Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LG, SDI, and Toshiba.

Exhibit 6: Notes for CPT Manufacturer Price Premiums Implied by Dr. Leitzinger's Hedonic Regressions

Notes:

- (1) Manufacturer price premiums were calculated by estimating regressions identical to those reported in Figure 5 of the Leitzinger Report;
- (2) The analysis is based on identical data to those used by Dr. Leitzinger in the analysis presented in Figure 5 of his report;
- (3) The data cover the 1995-2007 time period;
- (4) An observation represents a specific CPT transaction or the total sales for a specific CPT model customer, and month; this is the format in which the CPT sales data were produced;
- (5) The dependent variable in each regression is the natural log of the price, and the explanatory variables are: sales quantities and a dummy variable for each manufacturer, size, finish (bare/ITC), and aspect ratio (wide/standard screen);
- (6) The average manufacturer price premiums in each year were calculated using the following formula: (a) the quarterly premium was calculated as: exponential (the estimated coefficient on the Panasonic/MTPD dummy - the estimated coefficient on the SDI dummy) - 1; (b) the premiums were then averaged across the quarters in a given year;
- (7) A quarterly regression was only included in the calculation of the annual manufacturer price premium if it satisfied the following two criteria: (a) the regression included at least 100 observations; (b) the regression included at least ten observations of considerable quantity (i.e., not in the bottom quartile of the quantity distribution in the overall data) for Panasonic/MTPD and SDI.

**Exhibit 7A: Share of Observations with a Gap of More than 5% Between Actual CDT
Prices and Prices Predicted by Dr. Leitzinger's Hedonic Regressions**



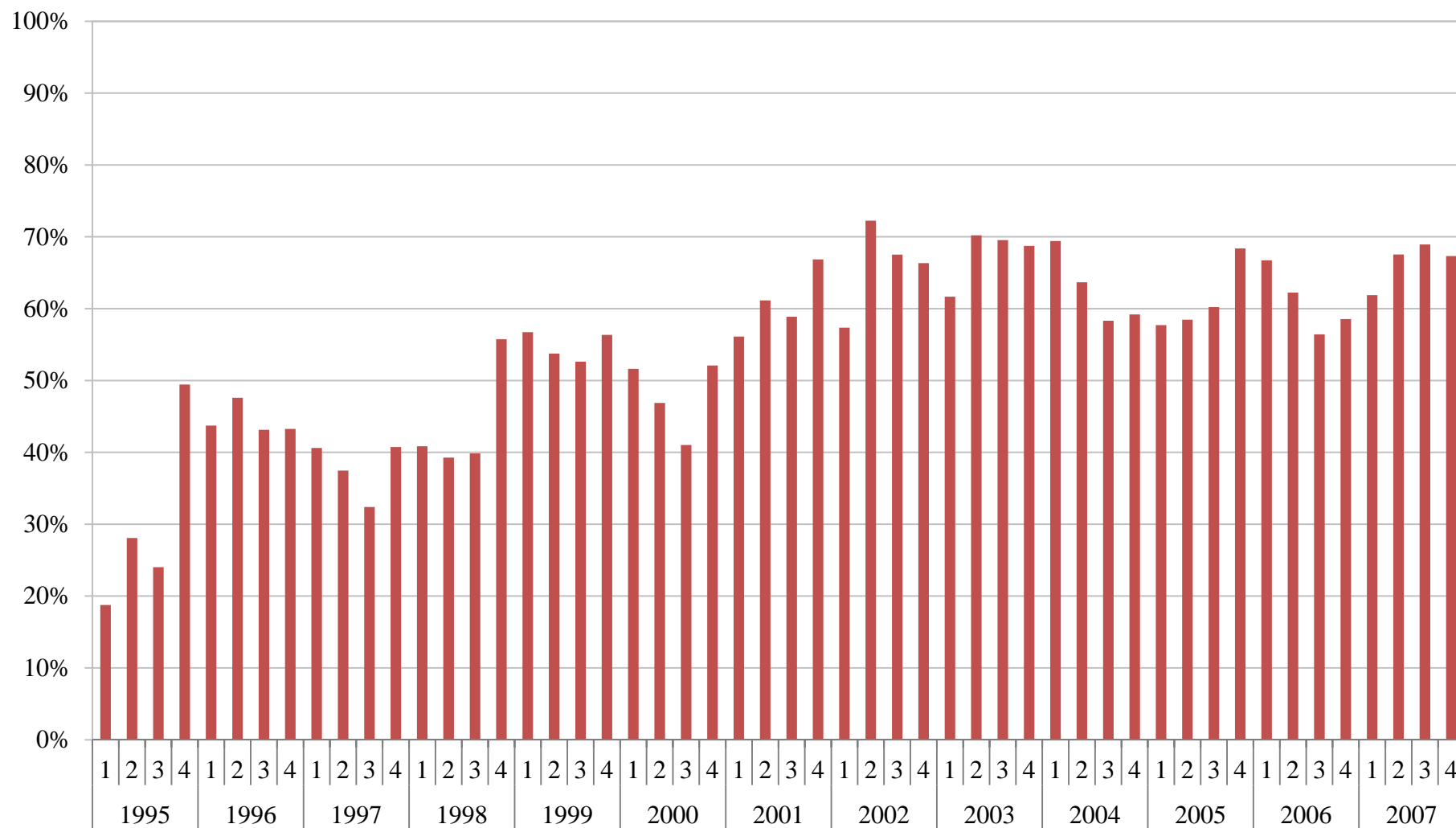
Source: Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LG, SDI, and Toshiba.

Exhibit 7A: Notes for Share of Observations with a Gap of More than 5% Between Actual CDT Prices and Prices Predicted by Dr. Leitzinger's Hedonic Regressions

Notes:

- (1) Gaps were calculated by estimating regressions identical to those reported in Figure 5 of the Leitzinger Report;
- (2) The analysis is based on identical data to those used by Dr. Leitzinger in the analysis presented in Figure 5 of his report;
- (3) The data cover the 1995-2007 time period;
- (4) An observation represents a specific CDT transaction or the total sales for a specific CDT model, customer, and month; this is the format in which the CDT sales data were produced;
- (5) The dependent variable in each regression is the natural log of the price, and the explanatory variables are: sales quantities and a dummy variable for each manufacturer, size, finish (bare/ITC), and aspect ratio (wide/standard screen);
- (6) Gaps were calculated using the following steps: (a) The predicted price was calculated for each observation based on the estimated regression equation; (b) The gap for each observation represents the absolute value of the percentage difference between the predicted price and the actual price; (c) For each quarter, the fraction of observations for which the gap was greater than 5% was calculated and plotted;
- (7) A quarterly regression was excluded if it did not include at least 100 observations.

Exhibit 7B: Share of Observations with a Gap of More than 5% Between Actual CPT Prices and Prices Predicted by Dr. Leitzinger's Hedonic Regressions

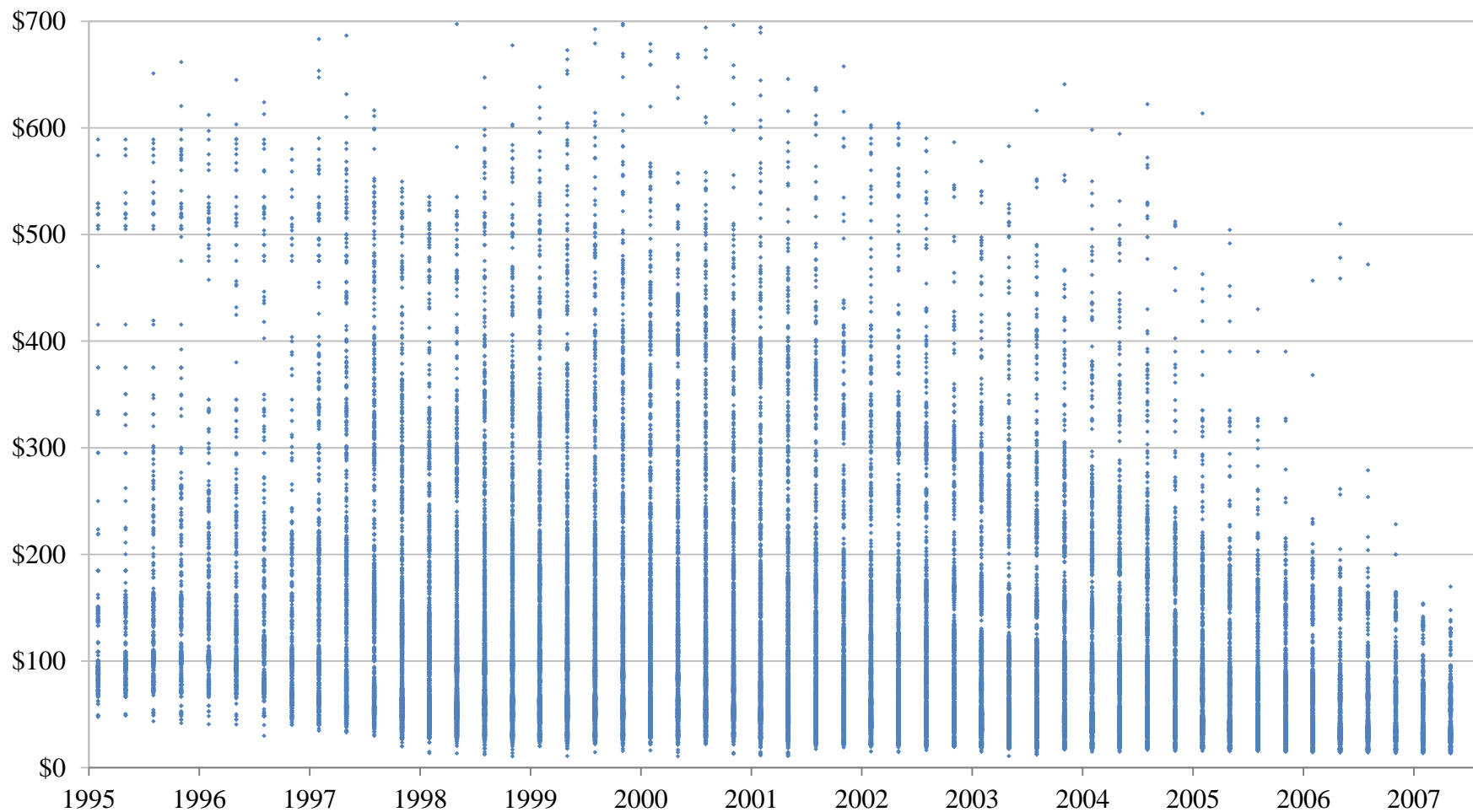


Source: Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LG, SDI, and Toshiba.

Exhibit 7B: Notes for Share of Observations with a Gap of More than 5% Between Actual CPT Prices and Prices Predicted by Dr. Leitzinger's Hedonic Regressions

- (1) Gaps were calculated by estimating regressions identical to those reported in Figure 5 of the Leitzinger Report.
- (2) The analysis is based on identical data to those used by Dr. Leitzinger in the analysis presented in Figure 5 of his report;
- (3) The data cover the 1995-2007 time period;
- (4) An observation represents a specific CPT transaction or the total sales for a specific CPT model, customer, and month; this is the format in which the CPT sales data were produced;
- (5) The dependent variable in each regression is the natural log of the price, and the explanatory variables are: sales quantities and a dummy variable for each manufacturer, size, finish (bare/ITC), and aspect ratio (wide/standard screen);
- (6) Gaps were calculated using the following steps: (a) The predicted price was calculated for each observation based on the estimated regression equation; (b) The gap for each observation represents the absolute value of the percentage difference between the predicted price and the actual price; (c) For each quarter, the fraction of observations for which the gap was greater than 5% was calculated and plotted;
- (7) A quarterly regression was excluded if it did not include at least 100 observations.

**Exhibit 8A: Dispersion in Quarterly Prices Across
All CRT Models and All Customers**



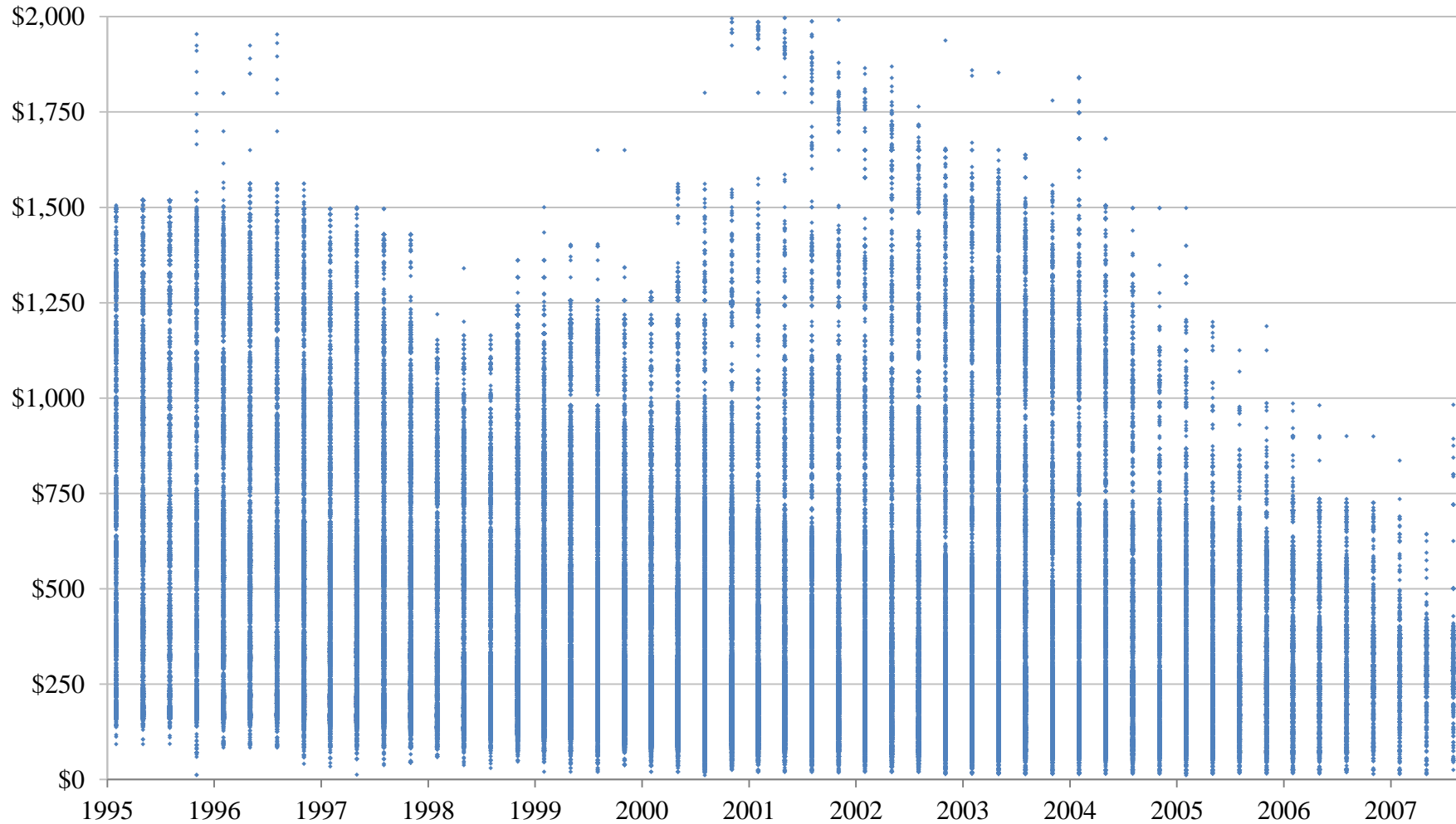
Source: Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LG, SDI, and Toshiba.

**Exhibit 8A: Notes for Dispersion in Quarterly Prices Across
All CRT Models and All Customers**

Notes:

- (1) The Global CRT sales data range from Q1 1995 to Q4 2007;
- (2) A point on the above chart represents the quantity-weighted average price for a given CRT model, customer, and quarter;
- (3) Prices were excluded as outliers as follows: for each quarter in which a given CRT model was sold to a given customer, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as “very large price decreases” or “very large price increases,” respectively. Prices for a given model, customer, and quarter were excluded as outliers if: (a) the price for the model and customer experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer, or vice versa; (b) it was the first quarter in which the model was sold to the customer and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer; or (c) it was the last quarter in which the model was sold to the customer and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer;
- (4) The following observations were also excluded: (a) Sales between integrated entities that sold CRTs; (b) observations for which the model number, customer name, or finish (bare/ITC) were missing; and (c) observations identified by Dr. Leitzinger as outliers;
- (5) A *de minimis* number of observations are outside the bounds of the y-axis.

**Exhibit 8B: Dispersion in Quarterly Prices Across
All CRT Finished Product Models and All Customers**



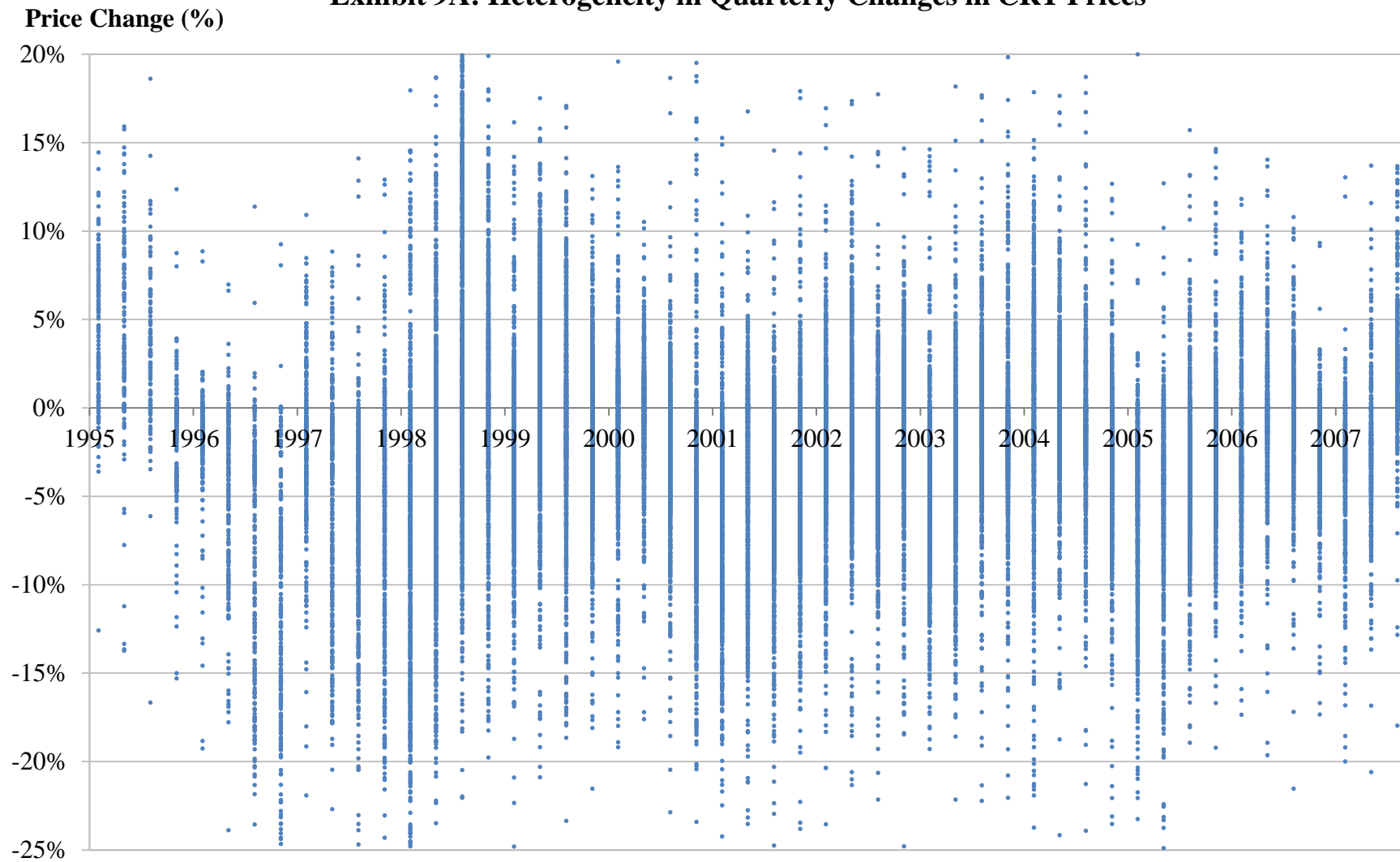
Source: CRT finished product sales data for Hitachi, LG, Panasonic, Philips, SEA, Tatung, and Toshiba.

Exhibit 8B: Notes for Dispersion in Quarterly Prices Across All CRT Finished Product Models and All Customers

Notes:

- (1) The CRT finished product sales data range from Q1 1995 to Q4 2007;
- (2) A point on the above chart represents the quantity-weighted average price for a given CRT finished product model customer, and quarter;
- (3) Prices were excluded as outliers as follows: for each quarter in which a given CRT finished product model was sold to a given customer, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as “very large price decreases” or “very large price increases,” respectively. Prices for a given model, customer, and quarter were excluded as outliers if: (a) the price for the model and customer experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer, or vice versa; (b) it was the first quarter in which the model was sold to the customer and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer; or (c) it was the last quarter in which the model was sold to the customer and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer;
- (4) The following observations were also excluded: (a) observations for which the model number, customer name, application (TV/monitor), or size were missing; and (b) observations identified by Dr. Leitzinger as outliers;
- (5) A *de minimis* number of observations are outside the bounds of the y-axis.

Exhibit 9A: Heterogeneity in Quarterly Changes in CRT Prices



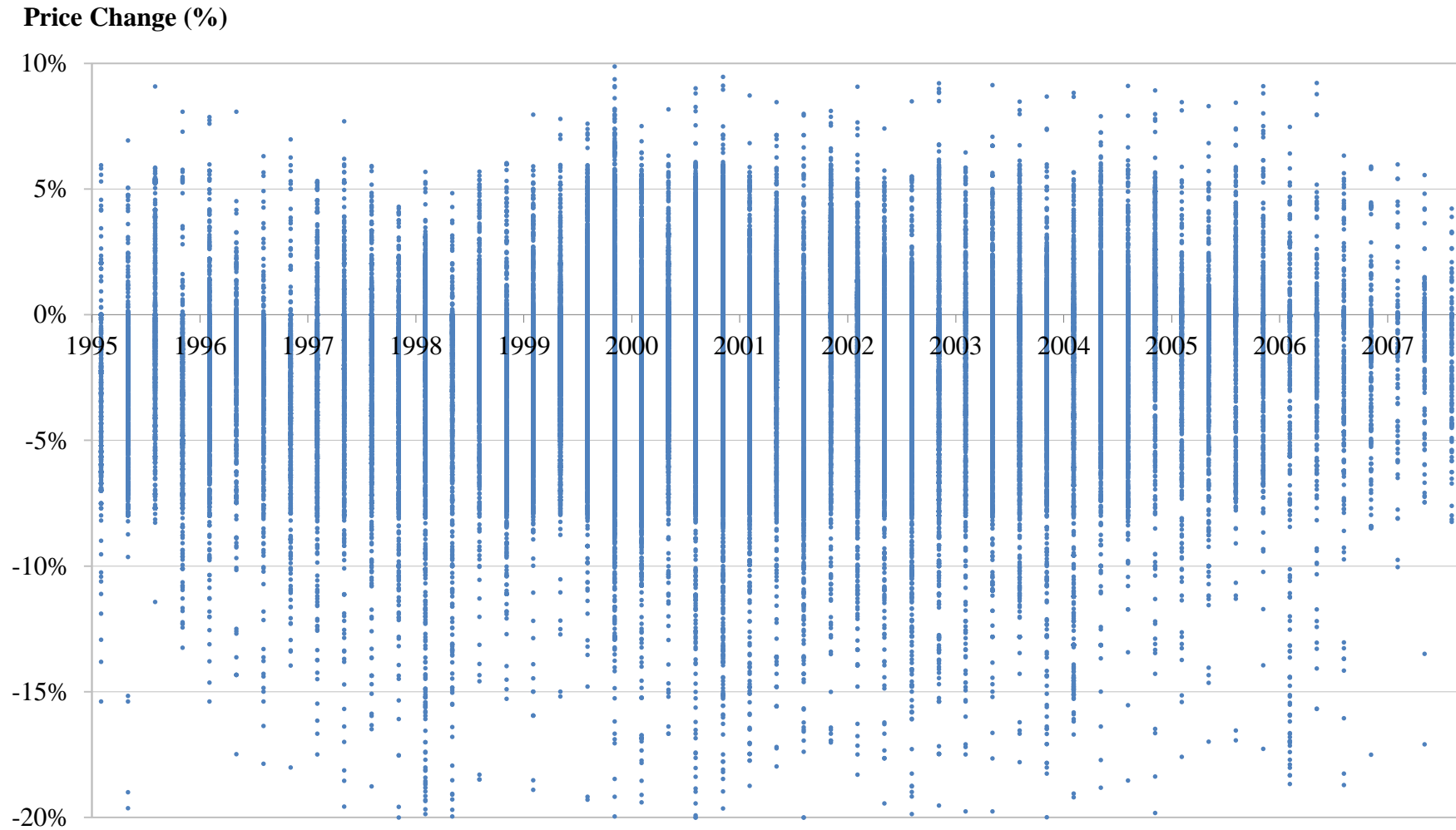
Source: Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LG, SDI, and Toshiba.

Exhibit 9A: Notes for Heterogeneity in Quarterly Changes in CRT Prices

Notes:

- (1) The Global CRT sales data range from Q1 1995 to Q4 2007;
- (2) A point on the above chart represents the quarter-to-quarter price change in the quantity-weighted average price for a given CRT model, customer, and quarter;
- (3) Prices were excluded as outliers as follows: for each quarter in which a given CRT model was sold to a given customer, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as “very large price decreases” or “very large price increases,” respectively. Prices for a given model, customer, and quarter were excluded as outliers if: (a) the price for the model and customer experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer, or vice versa; (b) it was the first quarter in which the model was sold to the customer and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer; or (c) it was the last quarter in which the model was sold to the customer and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer;
- (4) The following observations were also excluded: (a) sales between integrated entities that sold CRTs; (b) observations for which the model number, customer name, or finish (bare/ITC) were missing; and (c) observations identified by Dr. Leitzinger as outliers;
- (5) A *de minimis* number of observations are outside the bounds of the y-axis.

Exhibit 9B: Heterogeneity in Quarterly Changes in CRT Finished Product Prices



Source: CRT finished product sales data for Hitachi, LG, Panasonic, Philips, SEA, Tatung, and Toshiba.

Exhibit 9B: Notes for Heterogeneity in Quarterly Changes in CRT Finished Product Prices

Notes:

- (1) The CRT finished product sales data range from Q1 1995 to Q4 2007;
- (2) A point on the above chart represents the quarter-to-quarter price change in the quantity-weighted average price for a given CRT finished product model, customer, and quarter;
- (3) Prices were excluded as outliers as follows: for each quarter in which a given CRT finished product model was sold to a given customer, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as “very large price decreases” or “very large price increases,” respectively. Prices for a given model, customer, and quarter were excluded as outliers if: (a) the price for the model and customer experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer, or vice versa; (b) it was the first quarter in which the model was sold to the customer and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer; or (c) it was the last quarter in which the model was sold to the customer and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer;
- (4) The following observations were also excluded: (a) observations for which the model number, customer name, application (TV/monitor), or size were missing; and (b) observations identified by Dr. Leitzinger as outliers;
- (5) A *de minimis* number of observations are outside the bounds of the y-axis.

Exhibit 10A: Heterogeneity of Quarterly CRT Price Movements by Application, CPT Size, CPT Shape, and Customer Type

	Category 1	Category 2	Fraction of Prices of CRTs in Category 2 that Changed in the Opposite Direction to the Change in the Fisher Price Index for Category 1	Fraction of Prices of CRTs in Category 2 that Did Not Change Despite Change in the Fisher Price Index for Category 1	Sum of the Previous Two Columns
Differences Across Categories	CDT	CPT	16%	12%	28%
	CPT	CDT	17%	1%	18%
	Flat	Curved	22%	7%	29%
	Curved	Flat	16%	4%	20%
	Small	Large	17%	16%	33%
	Large	Small	15%	5%	20%
	Large	Medium	15%	5%	19%
	Medium	Large	17%	13%	29%
	Merchant	Transfer	9%	16%	25%
	Transfer	Merchant	21%	4%	25%
Differences Within Categories	CDT	CDT	4%	0%	4%
	CPT	CPT	10%	6%	15%
	Flat	Flat	3%	2%	6%
	Curved	Curved	13%	5%	18%
	Small	Small	6%	3%	9%
	Medium	Medium	11%	5%	16%
	Large	Large	19%	8%	27%

Source: Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LG, SDI, and Toshiba.

Exhibit 10A: Notes for Heterogeneity of Quarterly CRT Price Movements by Application, CPT Size, CPT Shape, and Customer Type

Notes:

- (1) The Global CRT Sales Data range from Q1 1995 to Q4 2007;
- (2) A price observation in this analysis represents the quarter-to-quarter price change in the quantity-weighted average price for a given CRT model, customer, and quarter;
- (3) The quarter-to-quarter change in the Fisher Price Index for CPTs (for example) represents an average across all CPT models and customers of the changes in the prices paid by each customer for each model; the price changes across quarters one and two are averaged in two ways - once using the quarter one sales volumes and once using the quarter two sales volumes - and the change in the Fisher Price Index represents the geometric mean of the two average price changes;
- (4) The fractions reported in the table were calculated as follows:
 - Step 1: The 25% of quarters that saw the largest absolute quarter-to-quarter changes in the Fisher Price Index for CRTs in Category 1 were identified;
 - Step 2: For each quarter identified in Step 1, (a) the fraction of prices of CRTs in Category 2 (weighted by sales volume) that changed in the opposite direction of the Category 1 Fisher Price Index and (b) the fraction whose prices did not change at all during the same time period were then identified;
 - Step 3: These fractions were averaged across all quarters identified in Step 1 using the sales volumes (by model, customer, and quarter) of CRTs in Category 2 as weights;
- (5) The Flat/Curved and Small/Medium/Large categories refer to CPTs only. The size categories are defined as follows: Small (0-19"), Medium (20-29"), Large (30+");
- (6) Prices were excluded as outliers as follows: for each quarter in which a given CRT model was sold to a given customer, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as "very large price decreases" or "very large price increases," respectively. Prices for a given model, customer, and quarter were excluded as outliers if: (a) the price for the model and customer experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer, or vice versa; (b) it was the first quarter in which the model was sold to the customer and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer; or (c) it was the last quarter in which the model was sold to the customer and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer;
- (7) The following observations were also excluded: (a) sales between integrated entities that sold CRTs; (b) observations for which the model number, customer name, or finish (bare/ITC) were missing; and (c) observations identified by Dr. Leitzinger as outliers.

Exhibit 10B: Heterogeneity of Quarterly CRT Finished Product Price Movements by Application, TV Size, and TV Shape

	Category 1	Category 2	Fraction of Prices of Finished Products in Category 2 that Changed in the Opposite Direction to the Change in the Fisher Price Index for Category 1	Fraction of Prices of Finished Products in Category 2 that Did Not Change Despite Change in the Fisher Price Index for Category 1	Sum of the Previous Two Columns
Differences Across Categories	Monitor	TV	10%	50%	60%
	TV	Monitor	30%	8%	38%
	Flat	Curved	20%	38%	58%
	Curved	Flat	1%	82%	84%
	Small	Large	9%	53%	62%
	Large	Small	9%	42%	51%
	Large	Medium	11%	43%	54%
	Medium	Large	9%	55%	65%
Differences Within Categories	Monitor	Monitor	11%	12%	23%
	TV	TV	9%	43%	52%
	Flat	Flat	4%	16%	20%
	Curved	Curved	9%	41%	50%
	Small	Small	22%	30%	52%
	Medium	Medium	13%	31%	44%
	Large	Large	6%	44%	50%

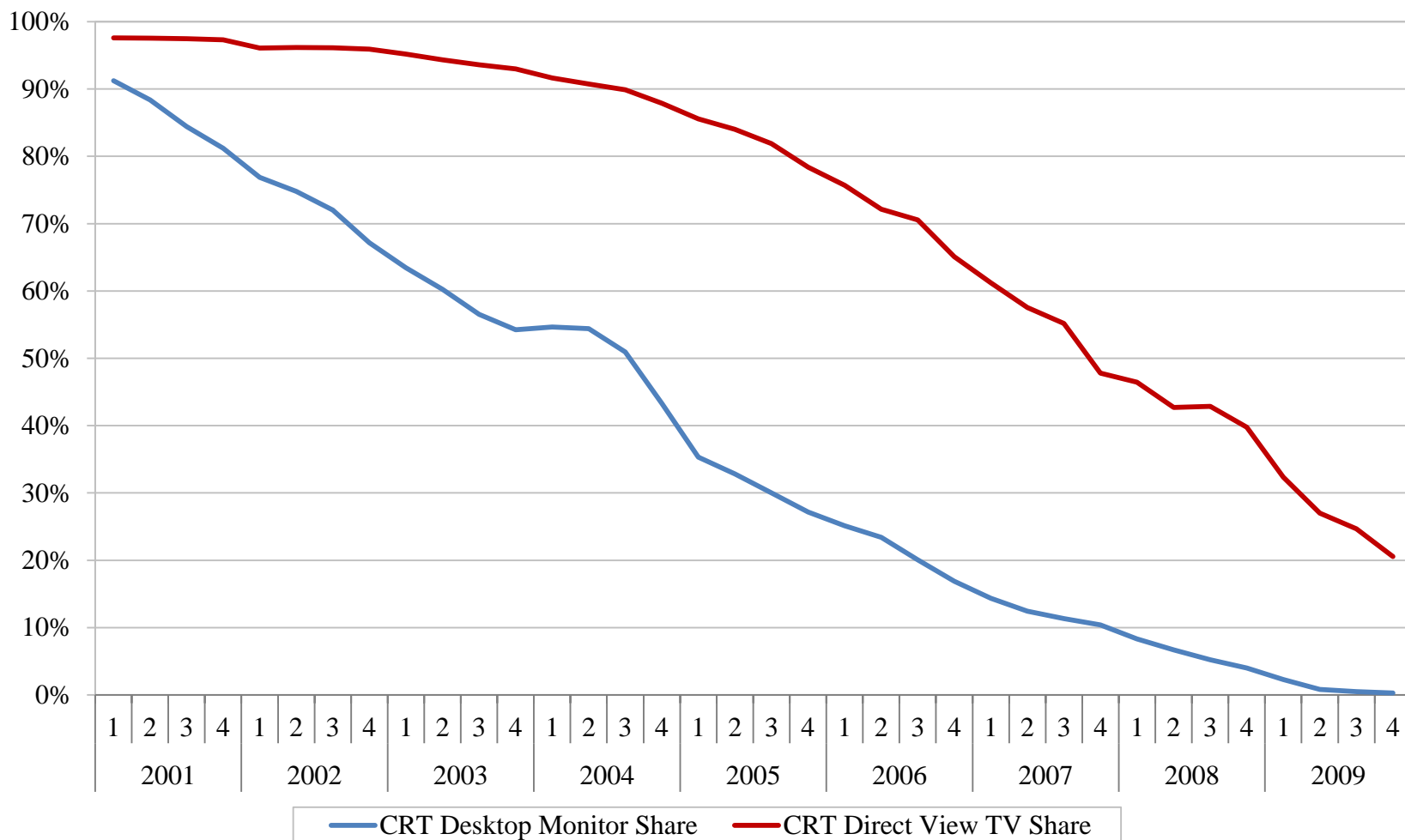
Source: CRT finished product sales data for Hitachi, LGE, Panasonic, Philips, SEA, Tatung, and Toshiba.

Exhibit 10B: Notes for Heterogeneity of Quarterly CRT Finished Product Price Movements by Application, TV Size, and TV Shape

Notes:

- (1) The CRT finished product sales data range from Q1 1995 to Q4 2007;
- (2) A price observation in this analysis represents the quarter-to-quarter price change in the quantity-weighted average price for a given CRT finished product model, customer, and quarter;
- (3) The quarter-to-quarter change in the Fisher Price Index for TVs (for example) represents an average across all TV models and customers of the changes in the prices paid by each customer for each model; the price changes across quarters one and two are averaged in two ways - once using the quarter one sales volumes and once using the quarter two sales volumes - and the change in the Fisher Price Index represents the geometric mean of the two average price changes;
- (4) The fractions reported in the table were calculated as follows:
 - Step 1: The 25% of quarters that saw the largest absolute quarter-to-quarter changes in the Fisher Price Index for finished products in Category 1 were identified;
 - Step 2: For each quarter identified in Step 1, (a) the fraction of prices of finished products in Category 2 (weighted by sales volume) that changed in the opposite direction of the Category 1 Fisher Price Index and (b) the fraction whose prices did not change at all during the same time period were then identified;
 - Step 3: These fractions were averaged across all quarters identified in Step 1 using the sales volumes (by model, customer, manufacturer, and quarter) of finished products in Category 2 as weights;
- (5) The Flat/Curved and Small/Medium/Large categories refer to TVs only. The size categories are defined as follows: Small (0-18"), Medium (19-27"), Large (28+");
- (6) Prices were excluded as outliers as follows: for each quarter in which a given CRT finished product model was sold to a given customer, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as "very large price decreases" or "very large price increases," respectively. Prices for a given model, customer, and quarter were excluded as outliers if: (a) the price for the model and customer experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer, or vice versa; (b) it was the first quarter in which the model was sold to the customer and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer; or (c) it was the last quarter in which the model was sold to the customer and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer;
- (7) The following observations were also excluded: (a) observations for which the model number, customer name, application (TV/monitor), or size were missing; and (b) observations identified by Dr. Leitzinger as outliers.

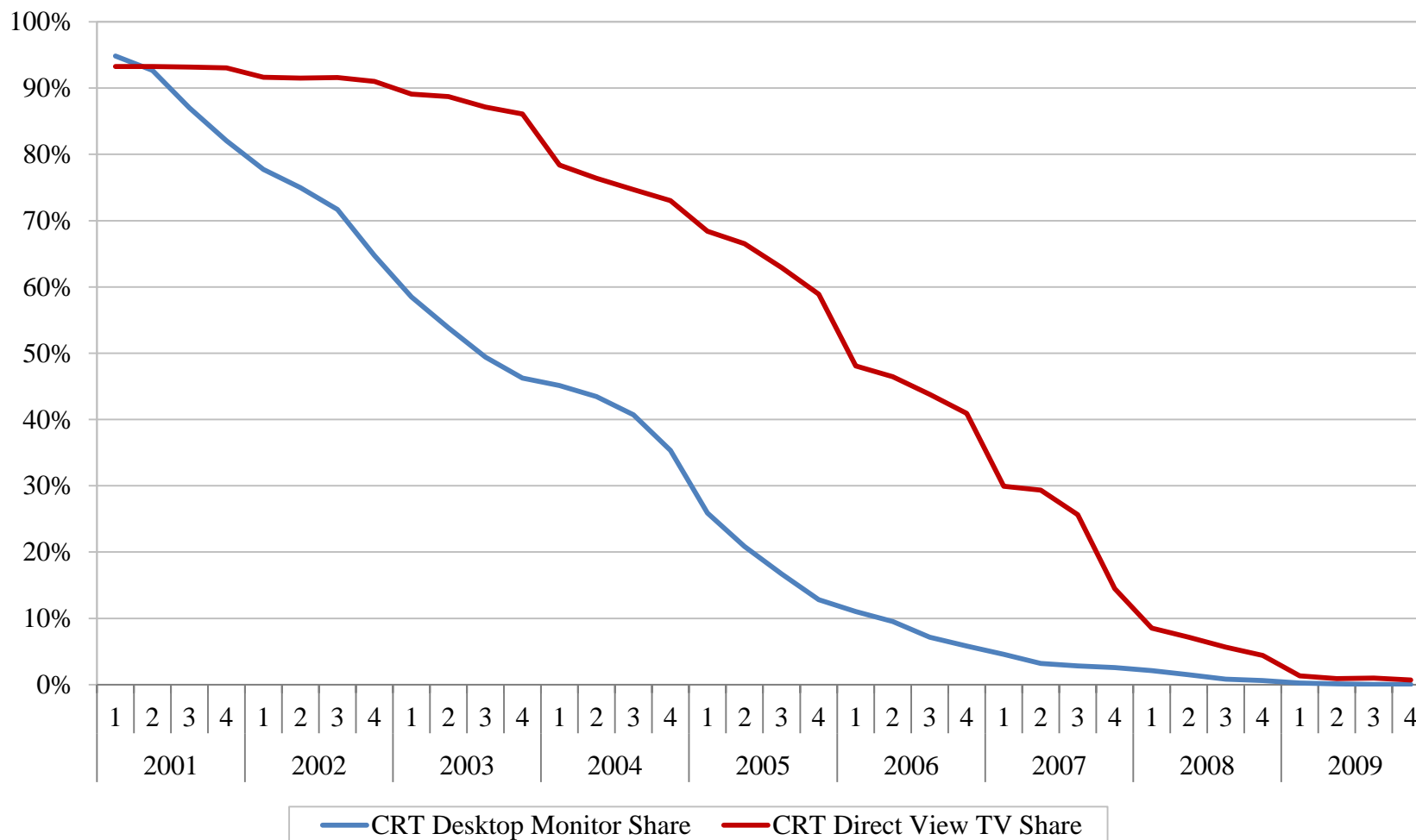
**Exhibit 11A: CRT Share of Worldwide Finished Product Sales by Application
(2001-2009)**



Sources: (1) iSuppli Worldwide Monitor Market Tracker Database; (2) iSuppli Television Systems Market Tracker Database.

Notes: (1) CRT Direct View TV Share represents CRT TV shipments as a percentage of CRT, LCD, Plasma, and Projection TV shipments; (2) CRT Desktop Monitor Share represents CRT monitor shipments as a percentage of CRT and LCD monitor shipments.

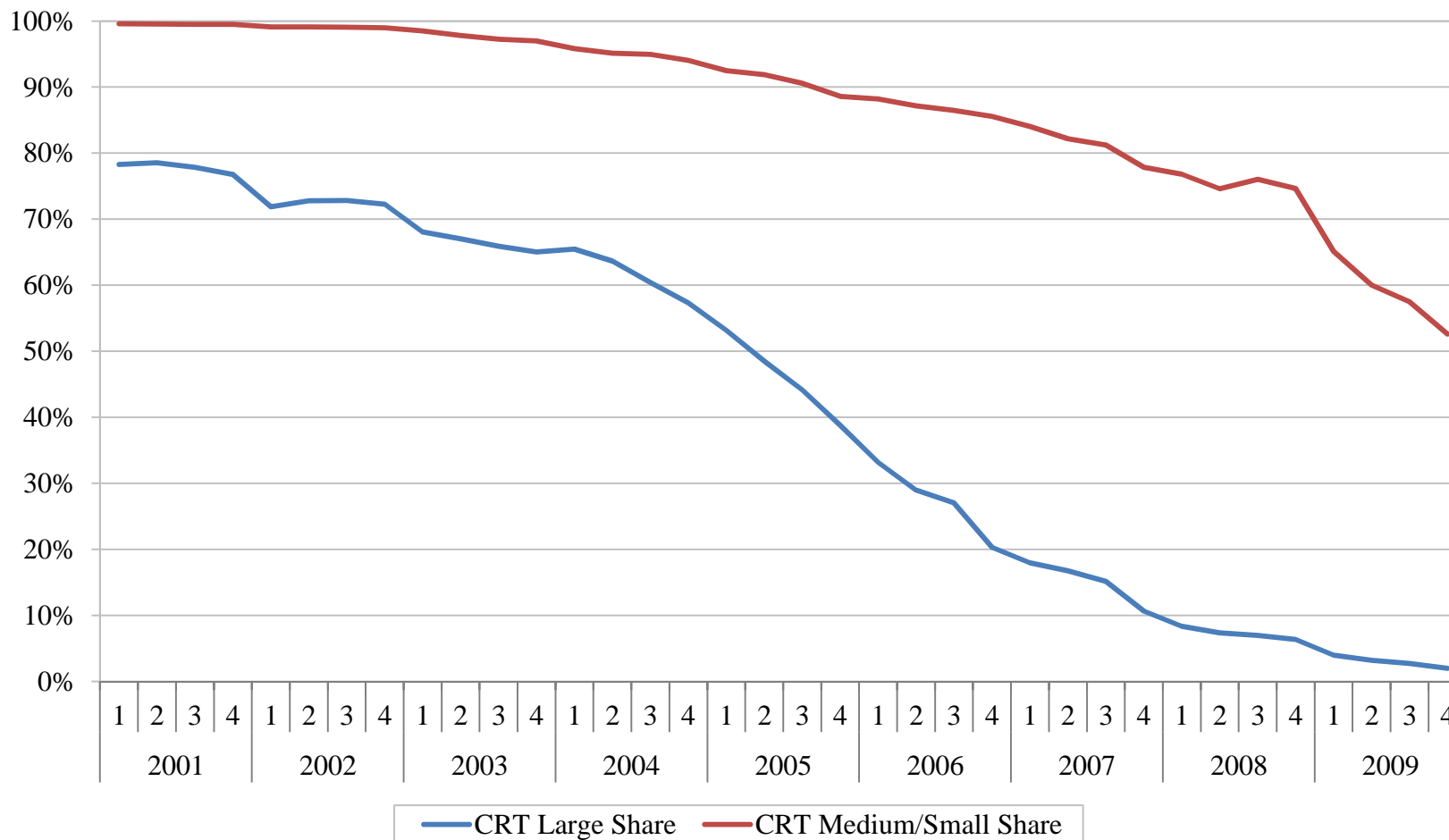
**Exhibit 11B: CRT Share of North American Finished Product Sales by Application
(2001-2009)**



Sources: (1) iSuppli Worldwide Monitor Market Tracker Database; (2) iSuppli Television Systems Market Tracker Database.

Notes: (1) CRT Direct View TV Share represents CRT TV shipments as a percentage of CRT, LCD, Plasma, and Projection TV shipments; (2) CRT Desktop Monitor Share represents CRT monitor shipments as a percentage of CRT and LCD monitor shipments.

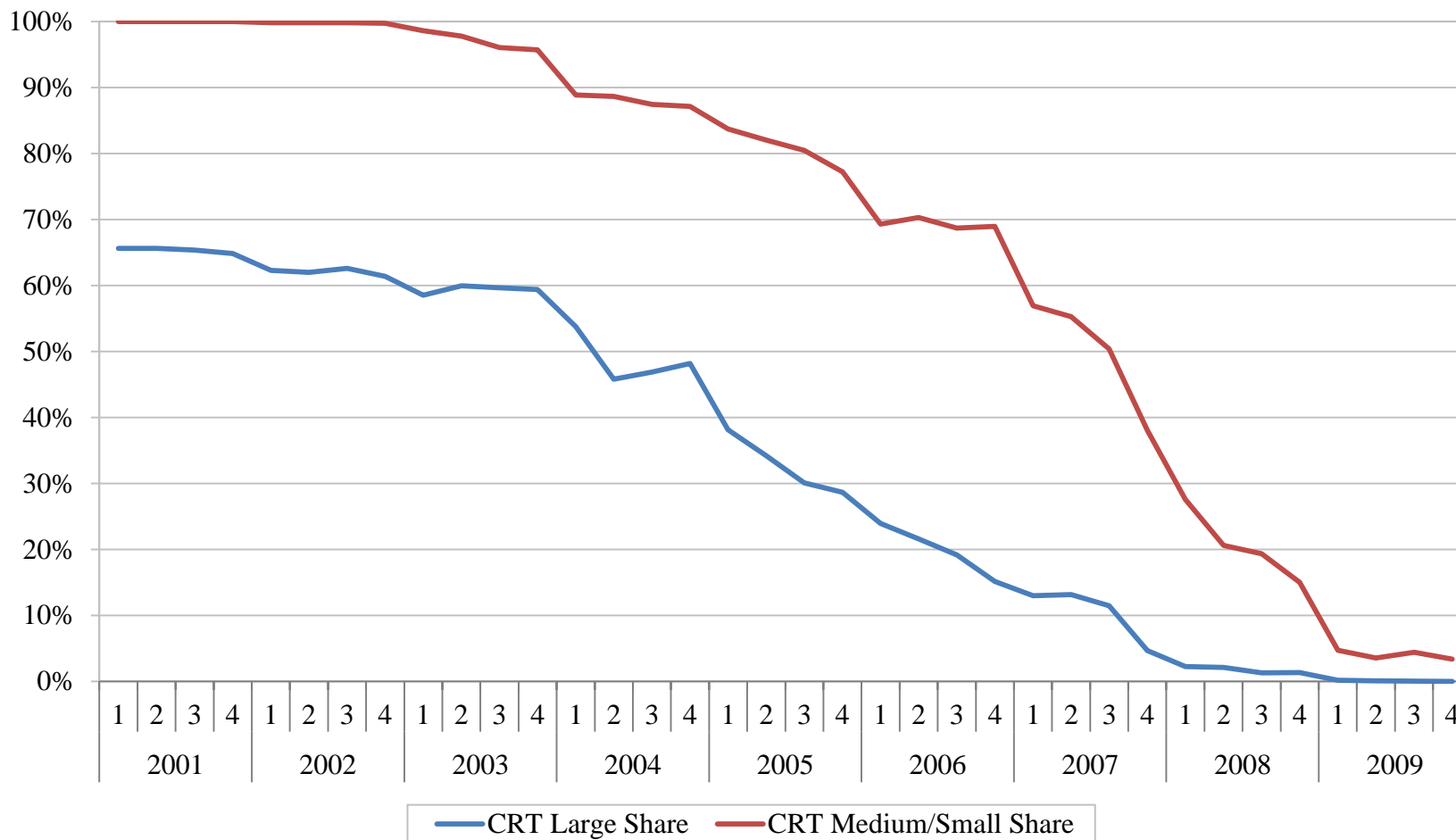
**Exhibit 12A: CRT TV Share of Worldwide TV Sales by Size
(2001-2009)**



Source: iSuppli TV Systems Market Tracker.

Notes: (1) The size categories are defined as follows: Medium/Small (0-29"), Large (30+"); (2) Projection TVs are considered Large; (3) The shares represent worldwide Large (or Medium/Small) CRT TV shipments as a percentage of worldwide Large (or Medium/Small) CRT, LCD, Projection, and Plasma TV shipments.

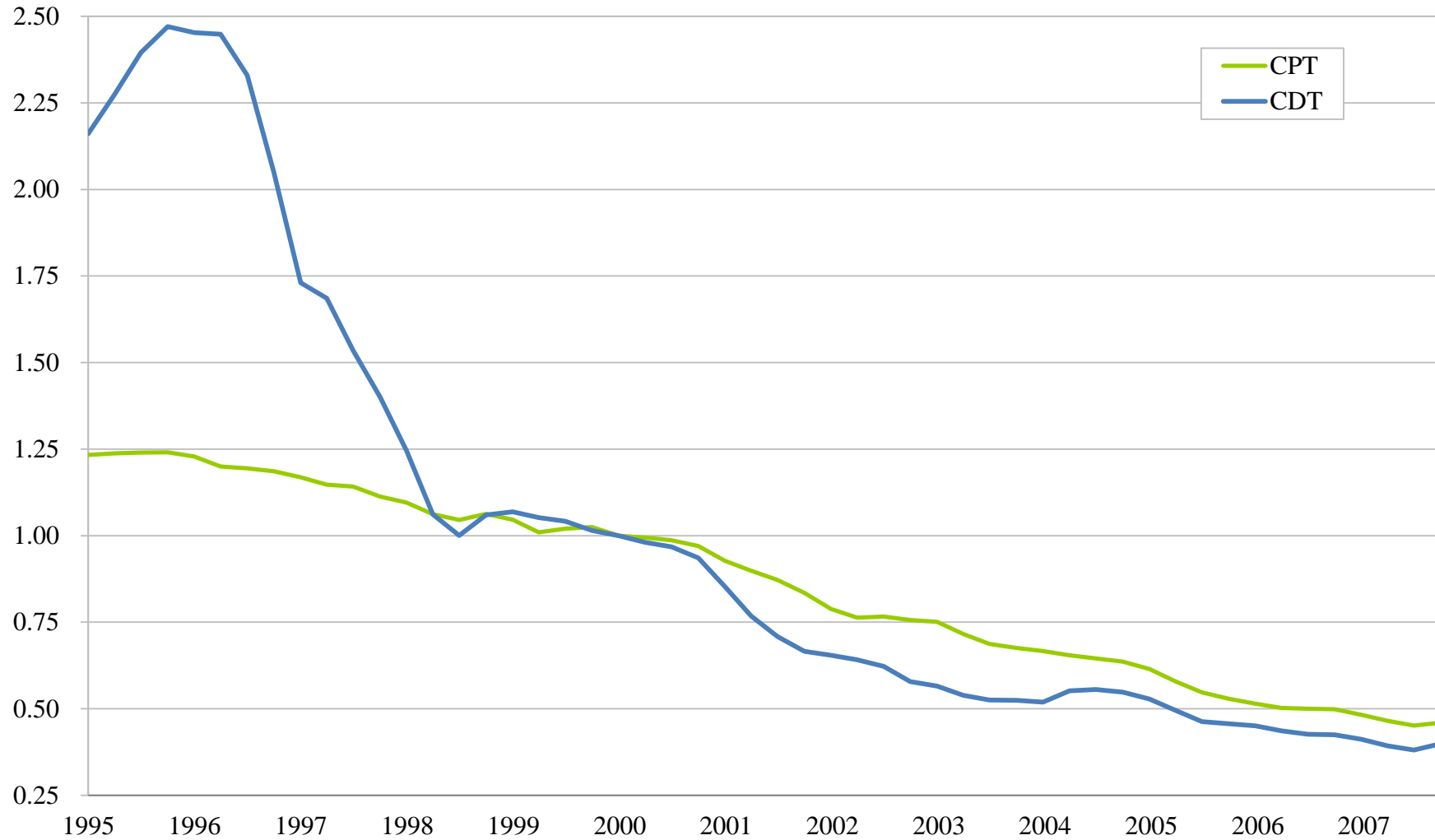
**Exhibit 12B: CRT TV Share of North American TV Sales by Size
(2001-2009)**



Source: iSuppli TV Systems Market Tracker.

Notes: (1) The size categories are defined as follows: Medium/Small (0-29"), Large (30+"); (2) Projection TVs are considered Large; (3) The shares represent North American Large (or Medium/Small) CRT TV shipments as a percentage of North American Large (or Medium/Small) CRT, LCD, Projection, and Plasma TV shipments.

Exhibit 13: Fisher Indices of Global CPT and CDT Prices



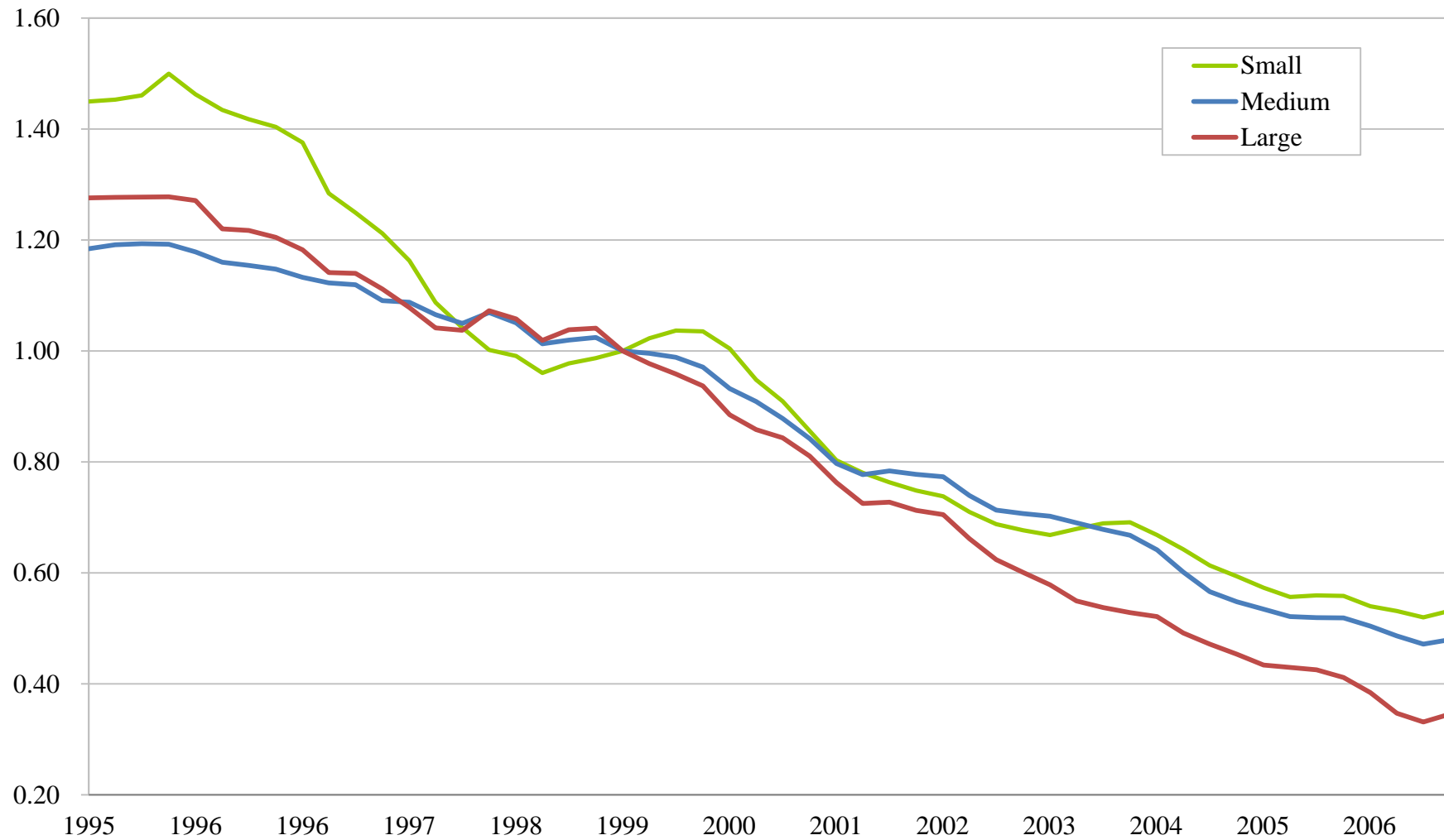
Source: Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LG, SDI, and Toshiba.

Exhibit 13: Notes for Fisher Indices of Global CPT and CDT Prices

Notes:

- (1) The Global CRT Sales Data range from Q1 1995 to Q4 2007;
- (2) The quarter-to-quarter change in the Fisher Price Index for CPTs (for example) represents an average across all CPT models and customers of the changes in the prices paid by each customer for each model; the price changes across quarters one and two are averaged in two ways - once using the quarter one sales volumes and once using the quarter two sales volumes - and the change in the Fisher Price Index represents the geometric mean of the two average price changes;
- (3) Each index is set to 1.0 in Q1 2000;
- (4) The graph shows the longest uninterrupted period for which data were available during the class period;
- (5) Prices were excluded as outliers as follows: for each quarter in which a given CRT model was sold to a given customer, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as “very large price decreases” or “very large price increases,” respectively. Prices for a given model, customer, and quarter were excluded as outliers if: (a) the price for the model and customer experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer, or vice versa; (b) it was the first quarter in which the model was sold to the customer and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer; or (c) it was the last quarter in which the model was sold to the customer and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer;
- (6) The following observations were also excluded: (a) Sales between integrated entities that sold CRTs; (b) observations for which the model number, customer name, or finish (bare/ITC) were missing; and (c) observations identified by Dr. Leitzinger as outliers.

Exhibit 14: Fisher Indices of CPT Prices by Size



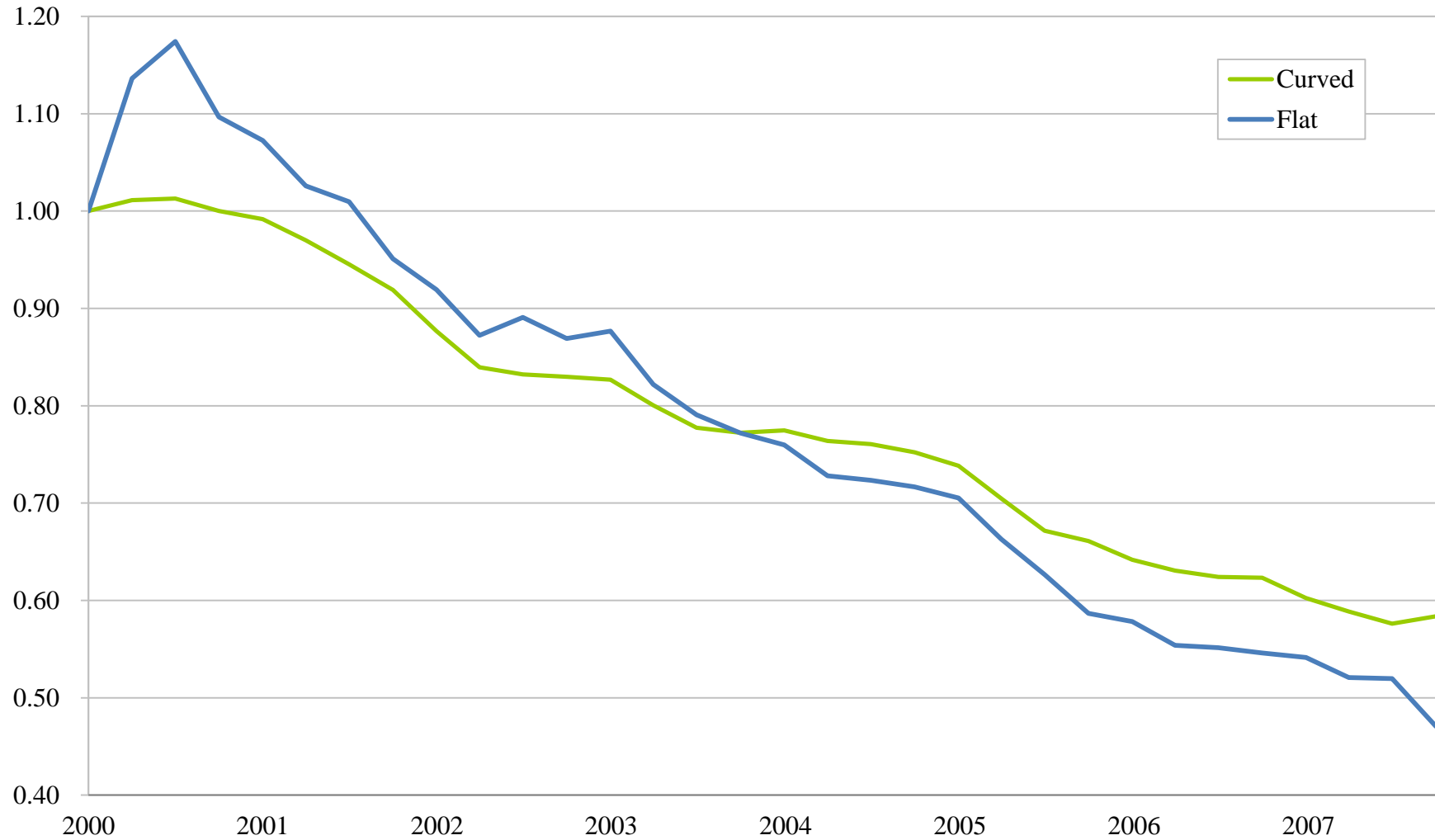
Source: Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LG, SDI, and Toshiba.

Exhibit 14: Notes for Fisher Indices of CPT Prices by Size

Notes:

- (1) The Global CRT Sales Data range from Q1 1995 to Q4 2007;
- (2) The size categories are defined as follows: Small (0-19"), Medium (20-29"), Large (30+");
- (3) The quarter-to-quarter change in the Fisher Price Index for large CPTs (for example) represents an average across all CPT models and customers of the changes in the prices paid by each customer for each model; the price changes across quarters one and two are averaged in two ways - once using the quarter one sales volumes and once using the quarter two sales volumes - and the change in the Fisher Price Index represents the geometric mean of the two average price changes;
- (4) Each index is set to 1.0 in Q1 2000;
- (5) The graph shows the longest uninterrupted period for which data were available during the class period;
- (6) Prices were excluded as outliers as follows: for each quarter in which a given CRT model was sold to a given customer, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as "very large price decreases" or "very large price increases," respectively. Prices for a given model, customer, and quarter were excluded as outliers if: (a) the price for the model and customer experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer, or vice versa; (b) it was the first quarter in which the model was sold to the customer and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer; or (c) it was the last quarter in which the model was sold to the customer and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer;
- (7) The following observations were also excluded: (a) sales between integrated entities that sold CRTs; (b) observations for which the model number, customer name, or finish (bare/ITC) were missing; and (c) observations identified by Dr. Leitzinger as outliers.

Exhibit 15: Fisher Indices of Flat and Curved CPT Prices



Source: Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LG, SDI, and Toshiba.

Exhibit 15: Notes for Fisher Indices of Flat and Curved CPT Prices

Notes:

- (1) The Global CRT Sales Data range from Q1 1995 to Q4 2007;
- (2) The quarter-to-quarter change in the Fisher Price Index for flat CPTs (for example) represents an average across all CPT models and customers of the changes in the prices paid by each customer for each model; the price changes across quarters one and two are averaged in two ways - once using the quarter one sales volumes and once using the quarter two sales volumes - and the change in the Fisher Price Index represents the geometric mean of the two average price changes;
- (3) Each index is set to 1.0 in Q1 2000;
- (4) The graph shows the longest uninterrupted period for which data were available during the class period;
- (5) Prices were excluded as outliers as follows: for each quarter in which a given CRT model was sold to a given customer, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as “very large price decreases” or “very large price increases,” respectively. Prices for a given model, customer, and quarter were excluded as outliers if: (a) the price for the model and customer experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer, or vice versa; (b) it was the first quarter in which the model was sold to the customer and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer; or (c) it was the last quarter in which the model was sold to the customer and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer;
- (6) The following observations were also excluded: (a) sales between integrated entities that sold CRTs; (b) observations for which the model number, customer name, or finish (bare/ITC) were missing; and (c) observations identified by Dr. Leitzinger as outliers.

Exhibit 16: Heterogeneity of Quarterly CRT Price Movements by Region (North America vs. ROW)

Category 1	Category 2	Fraction of Prices of CRTs in Category 2 that Changed in the Opposite Direction to the Change in the Fisher Price Index for Category 1	Fraction of Prices of CRTs in Category 2 that Did Not Change Despite Change in the Fisher Price Index for Category 1	Sum of the Previous Two Columns
NA CPTs	Foreign CPTs	20%	8%	28%
Foreign CPTs	NA CPTs	12%	26%	39%

Source: Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LG, SDI, and Toshiba.

**Exhibit 16: Notes for Heterogeneity of Quarterly CRT Price Movements by Region
(North America vs. ROW)**

Notes:

- (1) The Global CRT sales data range from Q1 1995 to Q4 2007;
- (2) The geographic region of a sale was classified as either North American or ROW using the bill-to country; if the bill-to country was missing, the ship-to country was used;
- (3) A price observation in this analysis represents the quarter-to-quarter price change in the quantity-weighted average price for a given CRT model, customer, and quarter;
- (4) The quarter-to-quarter change in the Fisher Price Index for North American CRTs (for example) represents an average across all North American CRT models and retailers of the changes in the prices charged by each retailer for each model in that region; the price changes across quarters one and two are averaged in two ways - once using the quarter one sales volumes and once using the quarter two sales volumes - and the change in the Fisher Price Index represents the geometric mean of the two average price changes;
- (5) The fractions reported in the table were calculated as follows:
 - Step 1: The 25% of quarters that saw the largest absolute quarter-to-quarter changes in the Fisher Price Index of CRTs in Category 1 were identified;
 - Step 2: For each quarter identified in Step 1, (a) the fraction of prices of CRTs in Category 2 (weighted by sales volume) that changed in the opposite direction of the Category 1 Fisher Price Index and (b) the fraction whose prices did not change at all during the same time period were then identified;
 - Step 3: These fractions were averaged across all quarters identified in Step 1 using the sales volumes (by model, customer, manufacturer, geographic region, and quarter) of CRTs in Category 2 as weights;
- (6) Prices were excluded as outliers as follows: for each quarter in which a given CRT model was sold to a given customer in a given region, the average quarterly price change was calculated between the given quarter and the previous quarter in which the same model was sold to the same customer in the same region. Price changes that were less than the 25th percentile of the distribution of price changes across all defendants minus 3 times the interquartile range of that distribution or greater than the 75th percentile of the distribution plus 3 times the interquartile range were flagged as “very large price decreases” or “very large price increases,” respectively. Prices for a given model, customer, region, and quarter were excluded as outliers if: (a) the price for the model, customer, and region experienced a very large decrease in the given quarter followed by a very large increase in the next quarter in which that model was sold to that customer in that region, or vice versa; (b) it was the first quarter in which the model was sold to the customer in that region and the price experienced a very large increase or decrease in the next quarter in which that model was sold to that customer in that region; or (c) it was the last quarter in which the model was sold to the customer in that region and the price experienced a very large increase or decrease from the previous quarter in which that model was sold to that customer in that region;
- (7) The following observations were also excluded: (a) sales between integrated entities that sold CRTs; (b) observations for which the model number, customer name, or finish (bare/ITC) were missing; and (c) observations identified by Dr. Leitzinger as outliers.

**Exhibit 17: Correlation Between CRT Prices and Atmospheric
Chlorine Gas Levels**

Correlation Coefficients		
CDTs		
CDT 14	chlorine	0.92
CDT 15	chlorine	0.93
CDT 17	chlorine	0.93
CDT 19	chlorine	0.91
CPTs		
CPT 14	chlorine	0.98
CPT 15	chlorine	0.99
CPT 20	chlorine	0.99
CPT 21	chlorine	0.97
CPT 25	chlorine	0.97
CPT 26	chlorine	0.96
CPT 29	chlorine	0.97
CPT 34	chlorine	0.99

Source: (1) Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LGE, SDI, and Toshiba; (2) National Oceanic and Atmospheric Administration (NOAA).

Notes: (1) The CPT and CDT categories listed in this exhibit are described by Dr. Leitzinger as "major" CRTs, and are included in Figure 8 of Dr. Leitzinger's report; (2) "Chlorine" refers to atmospheric chlorine gas concentration levels reported by the NOAA; (3) The correlation coefficients reported are between the quarterly average (Fisher) price index of each CRT category and chlorine gas levels typically between 1995 and 2007; (4) The Fisher price indices are the same as that used in the analysis presented by Dr. Leitzinger in Figure 8 of his report.

Exhibit 18: Target Prices Are Poor Predictors of Actual Prices of Non-Targeted CRT Categories

Non-Targeted CRT Categories Identified by Dr. Leitzinger	Minimum Probability of Errors Greater than X% when Predicting Prices of CRTs in Non-Targeted Categories Based on Target Prices			Sales Dollars (in Millions) 1995-2007
	X=5%	X=10%	X=15%	
CDTs				
CDT 10	30%	5%	0%	\$105
CDT 21	45%	13%	3%	\$1,178
CPTs				
CPT 6	53%	21%	7%	\$55
CPT 10	71%	46%	27%	\$391
CPT 16	51%	19%	5%	\$57
CPT 17	11%	0%	0%	\$69
CPT 26	18%	1%	0%	\$1,842
CPT 34	78%	58%	41%	\$4,089
CPT 36	66%	38%	19%	\$939
CPT 38	82%	64%	48%	\$1,584
Weighted Average	62%	40%	27%	\$10,310

Sources: (1) Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LGE, SDI, and Toshiba; (2) Leitzinger Report backup: "Target Prices_part1.csv," "Target Prices_part2.csv," and "Target Prices_part3.csv."

Exhibit 18: Notes for Target Prices Are Poor Predictors of Actual Prices of Non-Targeted CRT Categories

Notes:

- (1) CRT "categories" were defined in the same manner as in the analysis presented in Figure 9 of Dr. Leitzinger's report. Specifically, Dr. Leitzinger defined categories by application (CDT/CPT) and size as "targeted" if he identified at least one alleged target price for a CRT in that category and "non-targeted" if he did not identify any alleged target prices for any CRT in that category;
- (2) Quarterly-weighted actual prices were calculated by CRT model, customer, and quarter for each model in each non-targeted category using global CRT sales data for Q1 1995 to Q4 2007;
- (3) A series of regressions were then estimated. In each regression, the quantity weighted average price paid by each customer for each CRT model in a non-targeted category in a given quarter is the dependent variable, and the alleged target price of a "comparable" CRT in a targeted group in the same quarter is the independent variable. (For the purpose of this analysis, a CRT model in a targeted category is considered to be "comparable" to a CRT model in a non-targeted category if both were produced by the same firm and had the same finish and application.) For example, sales prices of 34-inch CPT (a non-targeted category) models were regressed on target prices of comparable 28-inch CPTs (a targeted category). Separately, sales prices of 34-inch CPT models were regressed on target prices of comparable models in other targeted CPT categories. For each regression, the probability that the predicted price would differ from the actual price by at least X% was estimated based on the 5% lower bound on the variance of the prediction errors. (Thus, the results are statistically significant at the 95% level.) From among these regressions, the lowest probability of error was identified for each X% threshold and reported for 34-inch CPTs in this exhibit. A similar analysis was performed for all other non-targeted categories.
- (4) Regressions with fewer than 20 observations were excluded; non-targeted CRT categories for which no regression included 20 observations were excluded from the table;
- (5) The following observations were excluded: (a) observations for which the model number, customer name, or finish were missing and (b) observations identified by Dr. Leitzinger as outliers.

Exhibit 19A: The Average Price of Each CDT Size Category Is a Poor Predictor of Individual CDT Prices in the Same and Other CDT Size Categories

CDT Size Category 1	X%	Probability of Errors Greater than X% when Predicting Prices of Size Category 1 CDTs Based on the Average Prices of CDT Size Category:			
		CDT 14	CDT 15	CDT 17	CDT 19
CDT 14	5%	89%	89%	91%	93%
	10%	79%	79%	83%	87%
	15%	68%	68%	74%	80%
CDT 15	5%	97%	97%	97%	98%
	10%	94%	94%	95%	95%
	15%	92%	92%	92%	93%
CDT 17	5%	89%	89%	88%	89%
	10%	77%	79%	77%	78%
	15%	67%	68%	66%	68%
CDT 19	5%	80%	85%	74%	70%
	10%	61%	70%	51%	43%
	15%	44%	57%	33%	24%

Sources: (1) Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LGE, SDI, and Toshiba; (2) Leitzinger Report backup: "Figure 8 Data.xlsx."

Notes: (1) Category 1 CDT prices are the quantity-weighted average sales prices for a given CDT model of a given size, sold to a given customer, in a given quarter; (2) Category 1 CDT prices are predicted using a regression in which the prices of a particular Category 1 CDT is the dependent variable and the average (Fisher Index) price of the same or another CDT size category is the independent variable; (3) The Fisher Indices are the same as those used in Figure 8 of the Leitzinger Report; (4) All prices were calculated using global CRT sales data for Q1 1995 to Q4 2007; (5) Observations for which the model number, customer name, or finish were missing were excluded; observations identified by Leitzinger as outliers were also excluded.

Exhibit 19B: The Average Price of Each CPT Size Category Is a Poor Predictor of Individual CPT Prices in the Same and Other CPT Size Categories

CPT Size Category 1	X%	Probability of Errors Greater than X% when Predicting Prices of Size Category 1 CPTs Based on the Average Prices of CPT Size Category:							
		CPT 14	CPT 15	CPT 20	CPT 21	CPT 25	CPT 26	CPT 29	CPT 34
CPT 14	5%	71%	71%	73%	76%	75%	74%	74%	73%
	10%	45%	46%	48%	54%	52%	51%	50%	50%
	15%	26%	27%	29%	36%	33%	32%	31%	31%
CPT 15	5%	69%	67%	67%	70%	68%	65%	65%	65%
	10%	43%	40%	40%	44%	40%	36%	36%	37%
	15%	24%	21%	20%	24%	21%	17%	17%	18%
CPT 20	5%	76%	76%	76%	78%	77%	77%	77%	76%
	10%	54%	54%	54%	57%	56%	56%	56%	55%
	15%	36%	36%	36%	39%	38%	38%	38%	37%
CPT 21	5%	91%	91%	91%	91%	91%	91%	91%	91%
	10%	83%	83%	83%	83%	83%	83%	83%	83%
	15%	74%	74%	74%	74%	74%	75%	74%	74%
CPT 25	5%	97%	97%	97%	97%	97%	97%	97%	97%
	10%	94%	94%	94%	94%	94%	94%	94%	94%
	15%	92%	92%	92%	92%	92%	92%	92%	92%
CPT 26	5%	49%	47%	37%	43%	46%	28%	33%	32%
	10%	17%	15%	8%	12%	14%	3%	5%	5%
	15%	4%	3%	1%	2%	3%	0%	0%	0%
CPT 29	5%	95%	95%	95%	94%	95%	95%	94%	95%
	10%	89%	89%	89%	89%	89%	89%	89%	89%
	15%	84%	84%	84%	84%	84%	84%	84%	84%
CPT 34	5%	84%	84%	84%	84%	84%	84%	84%	84%
	10%	70%	69%	69%	68%	69%	68%	69%	68%
	15%	56%	55%	56%	54%	54%	54%	55%	54%

Sources: (1) Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LPD, LGE, SDI, and Toshiba; (2) Leitzinger Report backup: "Figure 8 Data.xlsx."

Notes: (1) Category 1 CPT prices are the quantity-weighted average sales prices for a given CPT model of a given size, sold to a given customer, in a given quarter; (2) Category 1 CPT prices are predicted using a regression in which the prices of a particular Category 1 CPT is the dependent variable and the average (Fisher Index) price of the same or another CPT size category is the independent variable; (3) The Fisher Indices are the same as those used in Figure 8 of the Leitzinger Report; (4) All prices were calculated using global CRT sales data for Q1 1995 to Q4 2007; (5) Observations for which the model number, customer name, or finish were missing were excluded; observations identified by Leitzinger as outliers were also excluded.

**Exhibit 20A: Effect of Disaggregating the Corrected Dr. Leitzinger
Pass-through Model**

	Monitors	TVs		
		<u>SMALL</u>	<u>MEDIUM</u>	<u>LARGE</u>
Regression 1: Estimate for all CRT products	Positive & Significant			
Regression 2: Estimates by application	Positive & Significant	Not Statistically Significant		
Regression 3: Estimates by application and size	Positive & Significant	Not Statistically Significant	Negative & Significant	Not Statistically Significant

Notes:

(1) Statistical significance was evaluated at the 10% level or lower (i.e., the pass-through coefficient must have a p-value of 0.1 or less to be considered to be statistically significant); (2) Results in boxes that cover multiple products indicate regressions for which pass-through rates were assumed to be equal across those products; (3) TV size categories are defined as follows: Small (0-18"), Medium (19-27"), Large (28+").

**Exhibit 20B: CRT Cost Pass-through Estimates with Corrected Dr.
Leitzinger Pass-through Model**

Regression 1: Estimate of average pass-through coefficient (TVs and monitors pooled)	0.349* (0.0559)
<i>Observations</i>	304
<i>R-squared</i>	0.865
Regression 2: Estimates of separate pass-through coefficients for monitors and TVs:	
Monitors	0.623*** (0.00353)
TVs	-0.185 (0.512)
<i>Observations</i>	304
<i>R-squared</i>	0.868
Regression 3: Estimates of separate pass-through coefficients for monitors and TVs of different sizes:	
Monitors	0.529** (0.0130)
Small TVs	-0.558 (0.444)
Medium TVs	-1.774*** (0.00351)
Large TVs	-0.226 (0.419)
<i>Observations</i>	304
<i>R-squared</i>	0.872

Sources:

(1) Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LG, LPD, SDI, and Toshiba; (2) CRT finished product sales data for Hitachi, LG, Panasonic, Philips, SEA, Tatung, and Toshiba; (3) DisplaySearch Data; Bureau of Labor Statistics; Bank of Korea; OECD StatExtracts Database.

Exhibit 20B: Notes for CRT Cost Pass-Through Estimates with Corrected Leitzinger Pass-through Model

Notes:

- (1) Pass-through Regression 1 has as its dependent variable the log of the quantity-weighted average CRT finished product price for a given manufacturer, application (TV/monitor), size, and quarter. The independent variables include all of the regressors included in Dr. Leitzinger's pass-through analysis: his estimate of the log of the relevant CRT costs for the given manufacturer, application, size, and quarter; the one-quarter lagged log of LCD finished product prices for the given application and quarter, a quarterly production price index for TV tuners interacted with an indicator for TVs, the quarterly growth in desktop PC worldwide shipments interacted with an indicator for CDTs, the quarterly unemployment rate for G7 member countries, and the quarterly growth of industrial production for G7 member countries. (See Leitzinger Report, Figure 13.) Additionally, product fixed effects were added, where a "product" is defined by a unique combination of manufacturer, application, and size (which is how Dr. Leitzinger defined cross-sectional units in his pass-through analysis);
- (2) Regression 2 differs from Regression 1 in that it uses a dummy variable for TVs to estimate separate pass-through rates for monitors and TVs;
- (3) Regression 3 differs from the others in that it uses dummy variables to estimate separate pass-through rates for monitors and for TVs of different sizes;
- (4) P-values are reported in parentheses; "*" indicates significance at the 10% level; "***" indicates significance at the 5% level; and "****" indicates significance at the 1% level;
- (5) The above regressions use data employed by Dr. Leitzinger in the pass-through analysis presented in Figure 13 of his report. These data cover the period Q2 1999 through Q4 2007.

Exhibit 21A: Effect of Disaggregating Dr. Leitzinger's Overcharge Analysis of Global CRT Sales

	CDTs	CPTs		
		<u>SMALL</u>	<u>MEDIUM</u>	<u>LARGE</u>
Regression 1: Original Leitzinger overcharge estimate (all CRTs)	Positive and Significant			
Regression 2: Overcharge estimates by application (CDTs vs. CPTs)	Not Statistically Significant	Positive and Significant		
Regression 3: Overcharge estimates by application and CPT size	Not Statistically Significant	Not Statistically Significant	Positive and Significant	Positive and Significant

Notes: (1) Statistical significance was evaluated at the 10% level or lower (i.e., the overcharge regression coefficient must have a p-value of 0.1 or less to be considered to be statistically significant); (2) Results in boxes that cover multiple products indicate regressions for which the percentage overcharge was assumed to be equal across those products; (3) The CPT size categories are defined as follows: Small (0-19"), Medium (20-29"), Large (30+"); (4) Only results for the "Conspiracy 1" period identified by Dr. Leitzinger are summarized in this chart; (5) Estimated overcharges for the "Conspiracy 2" period identified by Dr. Leitzinger were not statistically significant for any of the specifications considered; (6) These regressions were estimated using the global CRT sales data used in Dr. Leitzinger's overcharge analysis (Figure 11, Leitzinger Report).

Exhibit 21B: Effect of Disaggregating Dr. Leitzinger's Overcharge Analysis of Global CRT Sales

	Combined Pre-Cartel and Post-Cartel Periods as Benchmark		Using Pre-Cartel Period as Benchmark		Using Post-Cartel Period as Benchmark	
	Conspiracy 1	Conspiracy 2	Conspiracy 1	Conspiracy 2	Conspiracy 1	Conspiracy 2
Regression 1: Estimate of average overcharge coefficient (CDTs and CPTs pooled)	0.0183** (0.0426)	0.00744 (0.596)	-0.0218* (0.0687)	-0.0471*** (0.00755)	0.0882*** (7.60e-08)	0.0619*** (0.000507)
<i>Observations</i>	2,960		2,900		2,841	
<i>R-squared</i>	0.985		0.985		0.985	
Regression 2: Estimates of separate overcharge coefficients for CPTs and CDTs:						
CDTs	0.000579 (0.977)	-0.0348 (0.260)				
CPTs	0.0225** (0.0240)	0.0177 (0.256)				
<i>Observations</i>	2,960					
<i>R-squared</i>	0.985					
Regression 3: Estimates of separate overcharge coefficients for CDTs and for CPTs of different sizes:						
CDTs	0.000672 (0.973)	-0.0351 (0.255)				
Small CPTs	-0.00713 (0.723)	0.0199 (0.493)				
Medium CPTs	0.0279** (0.0336)	0.0105 (0.618)				
Large CPTs	0.0427* (0.0509)	0.0197 (0.579)				
<i>Observations</i>	2,960					
<i>R-squared</i>	0.985					

Sources:

(1) Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LG, LPD, SDI, and Toshiba; (2) DisplaySearch Data; Bureau of Labor Statistics; OECD StatExtracts Database.

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**Exhibit 21B: Notes for Effect of Disaggregating Dr. Leitzinger's
Overcharge Analysis of Global CRT Sales**

Notes:

- (1) The dependent variable in these regressions is the log of the quantity-weighted average CRT price for a given manufacturer, application (CPT/CDT), size, and quarter, which is the same dependent variable used in the overcharge analysis presented in Figure 11 of Dr. Leitzinger's report;
- (2) The independent variables in these regressions are identical to the ones used in Dr. Leitzinger's overcharge analysis: (a) a one-quarter lagged dependent variable; (b) the one-quarter lagged log of the U.S. Producer Price Index for industrial glass and the one-quarter change in this index; (c) the one-quarter lagged log of CRT quantity (by manufacturer, application, and size) and one-quarter lagged change in the log of CRT quantity; (d) the one-quarter lagged log of global LCD shipments (by application) and the one-quarter lagged change in the log of global LCD shipments; (e) the quarterly growth rate of industrial production for G7 member countries; (f) the quarterly unemployment rate for G7 member countries; and (g) fixed effects by manufacturer, application, and size;
- (3) These regressions use the same data that Dr. Leitzinger used in his overcharge analysis;
- (4) The time periods in these regressions are defined in the same manner as in Dr. Leitzinger's overcharge analysis: (a) the pre-period is from Q3 1992 through Q1 1995, (b) the "Conspiracy 1" period is from Q2 1995 to Q2 2006, (c) the "Conspiracy 2" period is from Q3 2006 to Q1 2007, and the post-period is from Q2 2007 through Q4 2007;
- (5) P-values are reported in parentheses; "*" indicates significance at the 10% level; "***" indicates significance at the 5% level; "****" indicates significance at the 1% level. These p-values and significance levels pertain to the estimated coefficients on the conspiracy dummy variables used by Dr. Leitzinger. Very similar p-values are obtained by a Wald test of the long-run impact of the conspiracy-period dummies (i.e., conspiracy dummies that are not significant as per t-tests of short-run effects remain non-significant as per the Wald test, and conspiracy dummies that are significant as per t-tests of short-run effects remain significant as per the Wald test).

Exhibit 21C: Effect of Restricting Dr. Leitzinger's Overcharge Analysis to North American CRT Sales

	CDTs	CPTs		
		<u>SMALL</u>	<u>MEDIUM</u>	<u>LARGE</u>
Regression 1: Overcharge estimates for all CRTs	Not Statistically Significant			
Regression 2: Overcharge estimates by application (CDTs vs. CPTs)	Negative and Significant	Not Statistically Significant		
Regression 3: Overcharge estimates by application and CPT size	Negative and Significant	Not Statistically Significant	Not Statistically Significant	Not Statistically Significant

Notes: (1) Statistical significance was evaluated at the 10% level or lower (i.e., the overcharge regression coefficient must have a p-value of 0.1 or less to be considered to be statistically significant); (2) Results in boxes that cover multiple products indicate regressions for which the percentage overcharge was assumed to be equal across those products; (3) The CPT size categories are defined as follows: Small (0-19"), Medium (20-29"), Large (30+"); (4) Only results for the "Conspiracy 1" period identified by Dr. Leitzinger are summarized in this chart; (5) Estimated overcharges for the "Conspiracy 2" period identified by Dr. Leitzinger were not statistically significant for any of the specifications considered; (6) Regressions are estimated only on North American CRT sales data used in Dr. Leitzinger's overcharge analysis (Figure 11, Leitzinger Report).

Exhibit 21D: Effect of Restricting Dr. Leitzinger's Overcharge Analysis to North American CRT Sales

	Combined Pre-Cartel and Post-Cartel Periods as Benchmark		Using Pre-Cartel Period as Benchmark		Using Post-Cartel Period as Benchmark	
	Conspiracy 1	Conspiracy 2	Conspiracy 1	Conspiracy 2	Conspiracy 1	Conspiracy 2
Regression 1: Estimate of average overcharge coefficient (CDTs and CPTs pooled)	-0.0143 (0.155)	-0.00578 (0.756)	-0.0277** (0.0256)	-0.0281 (0.207)	0.0242 (0.265)	0.0234 (0.320)
<i>Observations</i> <i>R-squared</i>	1,327 0.991		1,303 0.99		1,232 0.99	
Regression 2: Estimates of separate overcharge coefficients for CPTs and CDTs:						
CDTs	-0.0769*** (0.00554)					
CPTs	-0.00647 (0.538)		0.000543 (0.977)			
<i>Observations</i> <i>R-squared</i>	1,327 0.991					
Regression 3: Estimates of separate overcharge coefficients for CDTs and for CPTs of different sizes:						
CDTs	-0.0774*** (0.00527)					
Small CPTs	-0.0197 (0.370)		0.0140 (0.693)			
Medium CPTs	0.00313 (0.817)		0.00551 (0.818)			
Large CPTs	-0.0201 (0.347)		-0.0359 (0.400)			
<i>Observations</i> <i>R-squared</i>	1,327 0.991					

Sources:

(1) Global CRT sales data for Chunghwa, Hitachi, MTPD, Panasonic, LG, LPD, SDI, and Toshiba; (2) Bureau of Labor Statistics; OECD StatExtracts Database; iSuppli Worldwide Monitor Market Tracker Database; iSuppli Television Systems Market Tracker Database.

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Exhibit 21D: Notes for Effect of Restricting Dr. Leitzinger's Overcharge Analysis to North American CRT Sales

Notes:

- (1) The dependent variable in these regressions is the log of the quantity-weighted average CRT price for a given manufacturer, application (CPT/CDT), size, and quarter, which is the same dependent variable used in the overcharge analysis presented in Figure 11 of Dr. Leitzinger's report;
- (2) The independent variables in these regressions are identical to the ones used in Dr. Leitzinger's overcharge analysis, except the global demand controls (G7 production growth rate and unemployment rate, LCD sales) used by Dr. Leitzinger are replaced with North-American or U.S. controls. Specifically, the independent variables are: (a) a one-quarter lagged dependent variable; (b) the one-quarter lagged log of the U.S. Producer Price Index for industrial glass and the one-quarter change in this index; (c) the one-quarter lagged log of CRT quantity (by manufacturer, application, and size) and one-quarter lagged change in the log of CRT quantity; (d) the one-quarter lagged log of North American LCD shipments (by application) and the one-quarter lagged change in the log of North American LCD shipments; (e) the quarterly growth rate of U.S. industrial production; (f) the quarterly U.S. unemployment rate; and (g) fixed effects by manufacturer, application, and size;
- (3) These regressions use a subset of the data that Dr. Leitzinger used in his overcharge analysis. Specifically, the data are limited to CRTs sold to North American customers that were identified using the "bill-to country" field (United States, Canada or Mexico). When the bill-to country field was not populated, the "ship-to country" field was used to identify sales to the United States, Canada or Mexico;
- (4) The time periods in these regressions are defined in the same manner as in Dr. Leitzinger's overcharge analysis: (a) the pre-period is from Q3 1992 through Q1 1995, (b) the "Conspiracy 1" period is from Q2 1995 to Q2 2006, (c) the "Conspiracy 2" period is from Q3 2006 to Q1 2007, and the post-period is from Q2 2007 through Q4 2007;
- (5) The data that Dr. Leitzinger used in his overcharge analysis do not include any North American CDT sales for the Conspiracy 2 period, and thus it was not feasible to estimate overcharges for North American CDT sales in the Conspiracy 2 period using these data;
- (6) P-values in parentheses; "*" indicates significance at the 10% level; "***" indicates significance at the 5% level; "****" indicates significance at the 1% level. These p-values and significance levels pertain to the estimated coefficients on the conspiracy dummy variables used by Dr. Leitzinger. Very similar p-values are obtained by a Wald test of the long-run impact of the conspiracy-period dummies (i.e., conspiracy dummies that are not significant as per t-tests of short-run effects remain non-significant as per the Wald test, and conspiracy dummies that are significant as per t-tests of short-run effects remain significant as per the Wald test).

EXHIBIT 8

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION
No. 07-cv-05944 SC
This Document Relates to: MDL No. 1917
...(continuing caption page 2)

SUPERIOR COURT OF THE STATE OF CALIFORNIA
CITY AND COUNTY OF SAN FRANCISCO

STATE OF CALIFORNIA, et al.,
Plaintiffs,
v.
SAMSUNG SDI, INC., CO., LTD,
et al.,
Defendants.

HIGHLY CONFIDENTIAL
DEPOSITION OF HIROKAZU NISHIYAMA
San Francisco, California
Tuesday, July 17, 2012

Reported by:
LESLIE ROCKWOOD
CSR No. 3462

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1 and there were a bottom line price for that tube, would 17:33:47
2 all of those tubes be sold at the sample -- or have the 17:33:51
3 same bottom line price -- excuse me -- bottom price? 17:33:55

4 MR. HEMLOCK: Objection. Hypothetical. 17:34:39

5 THE WITNESS: There wasn't any product to which 17:35:06
6 that applied. There wasn't a single product that were 17:35:08
7 made at all of our locations. Our products varied 17:35:12
8 depending on the geographical region or in terms of the 17:35:15
9 size or specification, et cetera, so it is very difficult 17:35:19
10 to answer that kind of question. 17:35:24

11 Q. BY MR. LAMBRINOS: But once the bottom price was 17:35:26
12 set for a certain size of CRT for certain specification, 17:35:28
13 you would always have that bottom price regardless of the 17:35:35
14 plant it was produced at; correct? 17:35:38

15 MR. HEMLOCK: Objection. Mischaracterizes prior 17:35:52
16 testimony. 17:35:55

17 THE WITNESS: The fact is that there was not a 17:36:33
18 single product that was produced with the same 17:36:35
19 specification globally. As I mentioned earlier, it 17:36:41
20 varied depending on who the customer was or where the 17:36:45
21 location was. The specification varied based on that. 17:36:48
22 So it's difficult to answer that question. 17:36:52

23 MR. LAMBRINOS: I'm going to go back up in the 17:36:57
24 record. 17:37:01

25 Q. You said that the 14-inch CRT was produced at 17:37:01

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1 MTPDI and MTPDM, and I just want to clarify that if there 17:37:04
2 was a bottom price for that 14-inch tube, that that 17:37:10
3 bottom price would be used at both MTPDI and MTPDM? 17:37:14

4 A. It is possible that the -- that the bottom price 17:38:03
5 might have been different on a customer-by-customer basis 17:38:11
6 inside the business plan, but I do not have the clear 17:38:15
7 recollection of that. 17:38:18

8 Q. So when you're talking about bottom price, is 17:38:19
9 that the same as the minimum price or the lowest price 17:38:24
10 you will go in a negotiation? 17:38:27

11 A. What it means is that the lowest price that 17:38:40
12 the -- the salesperson has the authority to go down to at 17:38:54
13 the -- when they face negotiations. 17:39:01

14 Q. Okay. So let's assume that you have a bottom 17:39:05
15 price determined for a 15-inch CRT. Was that bottom 17:39:07
16 price always a certain percentage below the bottom price 17:39:16
17 of a 17-inch CRT with similar specifications? 17:39:21

18 A. I don't think there was any product that was 17:40:02
19 17-inch, so it's hard to answer that question. 17:40:05

20 Q. Well, what about when we're talking about the 17:40:09
21 difference between a 14-inch CRT and a 15-inch CRT? If 17:40:13
22 the 14-inch CRT had, for example, a bottom price of \$19, 17:40:17
23 would the bottom prices for the 15-inch CRT be related to 17:40:22
24 that \$19 that you're charging for the 14-inch? 17:40:27

25 MR. HEMLOCK: Objection. Ambiguous. 17:40:54

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1 THE WITNESS: It was not so simple as to be 17:41:52
2 determined automatically just because the 14 inch is a 17:41:56
3 certain price when we compare these 14 inches and 17:42:00
4 15 inches. For example, 14 inches was round. 17:42:06
5 Fifteen inches, I think, was flat. 17:42:11

6 And, consequently, the materials used for these 17:42:13
7 types of -- two types of products were different. The 17:42:18
8 demand for each type of the product was different, too. 17:42:22
9 So it was not possible to simply calculate based on one 17:42:28
10 to figure out the other. It was not so simple, and I 17:42:34
11 recall that the various factors were taken into 17:42:41
12 consideration to determine each price. 17:42:45

13 Q. BY MR. LAMBRINOS: What factors? 17:42:49

14 A. First of all, the cost and then the volume or 17:43:15
15 the number of units, the size of the demand, 17:43:17
16 specification, size, those things. 17:43:23

17 Q. Anything else? 17:43:25

18 A. It also depended on the customer and also 17:43:43
19 depended on the geographical regions, too. 17:43:46

20 Q. And how did the pricing vary based on a 17:43:49
21 customer's geographic location? 17:43:53

22 A. In terms of the geographical areas or regions, 17:45:37
23 the -- in Japan, Europe and the United States, they 17:45:45
24 tended to -- they tend to prefer high performance -- 17:45:52

25 THE INTERPRETER: Strike that. Sorry. 17:46:03

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1 THE WITNESS: In terms of the region, the main 17:46:04
2 types of products were the high performance and larger 17:46:07
3 size for Japan, Europe and America or the United States. 17:46:15
4 On the other hand, for southeast Asia, the medium to 17:46:21
5 small size tubes were the main products. So the -- in 17:46:25
6 this manner, depending on the region, there was a big 17:46:33
7 difference in the size and, therefore, the price. 17:46:37

8 Also, the United States and Europe are protected 17:46:42
9 by the tariff in the United States. Any import outside 17:46:47
10 of the region were subject to the tariff of 15 -- 1-5, 17:46:52
11 15 percent and for Europe 14 percent. So the raw 17:46:59
12 materials had to be procured within the region, and that 17:47:10
13 made a difference in the materials cost. And so that 17:47:14
14 made a difference in the prices. That made a difference 17:47:21
15 in cost and the prices. 17:47:26

16 THE INTERPRETER: And the witness wants to make 17:47:30
17 a correction. 17:47:32

18 THE WITNESS: I said the tariff for the U.S. was 17:47:48
19 15 percent, but it might have been 5 percent. It was 17:47:51
20 either 5 or 15, but I can't remember which one it was. 17:47:54

21 Q. BY MR. LAMBRINOS: Is that your complete answer 17:48:03
22 on geographic locations? 17:48:05

23 A. Yes. 17:48:09

24 Q. Were there any pricing guidelines created that 17:48:12
25 were built on the bottom price that were used by the 17:48:17

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION
No. 07-cv-05944 SC
This Document Relates to: MDL No. 1917
...(continuing caption page 2)

SUPERIOR COURT OF THE STATE OF CALIFORNIA
CITY AND COUNTY OF SAN FRANCISCO

STATE OF CALIFORNIA, et al.,
Plaintiffs,
v.
SAMSUNG SDI, INC., CO., LTD,
et al.,
Defendants.

CONTINUED HIGHLY CONFIDENTIAL
DEPOSITION OF HIROKAZU NISHIYAMA
San Francisco, California
Wednesday, July 18, 2012

Reported by:
LESLIE ROCKWOOD
CSR No. 3462

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1 MR. HEMLOCK: Same objection. 11:16:30

2 THE WITNESS: Honestly I can't recall precisely 11:16:46

3 what it was like. I -- please refer to sales data. 11:16:52

4 Q. BY MR. LAMBRINOS: By 2002, were most Panasonic 11:17:00

5 CPTs sold as ITC or bare? 11:17:02

6 A. Both forms existed. 11:17:25

7 Q. Is it the case that ITCs sold for the U.S. and 11:17:27

8 Canada market won't work in other geographic areas? 11:17:31

9 A. Based on the ground magnetic field, ITC needed 11:18:06

10 adjustment. So such products could not have been sold to 11:18:12

11 the countries in south hemi -- southern hemisphere, such 11:18:18

12 as Brazil or Australia. 11:18:25

13 Q. When Panasonic sells a CPT as an ITC, does it 11:18:27

14 know if the resulting TV will be sold in the United 11:18:32

15 States? 11:18:52

16 MR. HEMLOCK: Objection. Lacks foundation, 11:18:52

17 Panasonic selling CPTs. 11:18:58

18 Q. BY MR. LAMBRINOS: When MTPD sells a CPT as an 11:19:00

19 ITC, does it know if the resulting TV will be sold -- 11:19:03

20 will be going into the United States? 11:19:06

21 A. That was our assumption, but if the customer 11:19:45

22 changed the ITC -- ITC, that's something we wouldn't have 11:19:49

23 known. 11:19:56

24 Q. Did you ever hear about a customer changing the 11:19:57

25 ITC? 11:20:05

EXHIBIT 9

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION
No. 07-cv-05944 SC
This Document Relates to: MDL No. 1917
...(continuing caption page 2)

SUPERIOR COURT OF THE STATE OF CALIFORNIA
CITY AND COUNTY OF SAN FRANCISCO

STATE OF CALIFORNIA, et al.,
Plaintiffs,
v.
SAMSUNG SDI, INC., CO., LTD,
et al.,
Defendants.

HIGHLY CONFIDENTIAL
DEPOSITION OF TATSUO TOBINAGA
San Francisco, California
Monday, July 16, 2012

Reported by:
LESLIE ROCKWOOD
CSR No. 3462

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1 significant change in specification. So in my 17:43:44
2 recollection, there wasn't really any specification 17:43:47
3 change that was costly. 17:43:49

4 Q. Okay. Now, if we're talking about different 17:43:50
5 models. 17:43:53

6 A. Uh-huh. A typical example would be to change -- 17:44:02
7 would be changing the curve of the shadow mask for the 17:44:06
8 same 29-inch, then we would need a mold for that shadow 17:44:10
9 mask. So one mold costs in Japanese yen 30 million, and 17:44:18
10 the lens for the exposure, the lens that would relate to 17:44:39
11 that, I think cost 10 million yen. 17:44:42

12 So in my recollection, to make that type of 17:44:51
13 change it took several dozen yen -- I mean, I'm sorry, 17:44:53
14 I'm sorry, 20 or 30 million yen. 17:45:00

15 Q. Just so I have a baseline for this, we talked 17:45:07
16 about the cost it takes to produce a factory, and you 17:45:10
17 said, I think, 10 billion yen. What is that in U.S. 17:45:15
18 dollars? 17:45:20

19 A. So it would be. 17:45:50

20 MR. LEHMAN: 1 million. 17:46:00

21 THE WITNESS: So it would be 12 billion, 17:46:10
22 13 billion yen, something like that. 17:46:13

23 MR. LAMBRINOS: We're talking about dollars. 17:46:15

24 THE INTERPRETER: The interpreter apologizes. 17:46:17

25 THE WITNESS: Like 12 billion, \$13 billion or 17:46:22

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1 something like that. 17:46:26

2 Q. BY MR. LAMBRINOS: Okay. Well, let me get this 17:46:42

3 instead -- 17:46:44

4 THE INTERPRETER: I'm sorry, I'm sorry. The 17:46:45

5 interpreter apologizes. The number was wrong. Is that 17:46:47

6 right? 17:46:55

7 MR. LEHMAN: Yeah, like 120 million. Did you 17:46:57

8 say 12 million? 17:47:00

9 THE INTERPRETER: The interpreter said it wrong. 17:47:02

10 It's like 120, 130 million yen -- dollars. 120, 17:47:04

11 \$130 million. I'm so sorry. 17:47:11

12 Q. MR. LAMBRINOS: All right. 120 million. I see. 17:47:15

13 Q. What are the costs involved if Panasonic wanted 17:47:21

14 to switch production to a different specification of CRT 17:47:28

15 product? For example, switching from a 14-inch to a 17:47:33

16 21-inch CDT? 17:47:43

17 A. Usually something like that would not be done, 17:48:13

18 and that is because the lines were divided up by tube 17:48:17

19 size: Small, medium, large. 15 would be small. So it 17:48:23

20 might go from 15 to 14 to 17, but it would never jump to 17:48:27

21 21. 17:48:31

22 Q. Well, from 14 to 17, what would the costs be? 17:48:32

23 A. I think it would cost 20 -- 17:48:50

24 THE INTERPRETER: Can the interpreter -- 17:48:59

25 THE WITNESS: It would cost around 50 billion 17:49:12

1	yen or so, around that area.	17:49:16
2	MR. LEHMAN: A hundred million.	17:49:19
3	THE WITNESS: 500 million yen or so, around	17:49:21
4	there.	17:49:25
5	MR. YOHAI: I'm sorry, what was the answer? 500	17:49:25
6	million.	17:49:28
7	THE INTERPRETER: Around 500 million or so.	17:49:29
8	MR. YOHAI: Yen?	17:49:32
9	THE INTERPRETER: Yes.	17:49:34
10	THE WITNESS: So it would be about \$5 million;	17:49:35
11	is that right?	17:49:37
12	MR. YOHAI: \$5 million.	17:49:38
13	MR. LEHMAN: If the exchange rate is a hundred	17:49:40
14	yen.	17:49:42
15	MR. YOHAI: Yes, I know. I'm just asking to be	17:49:42
16	clear.	17:49:45
17	THE WITNESS: So it might be about \$6 million	17:49:45
18	with the current exchange rate.	17:49:48
19	Q. BY MR. LAMBRINOS: When you opened a factory for	17:50:08
20	CRTs, how many lines were initially installed? First of	17:50:13
21	all, how many lines were initially installed when you	17:50:16
22	opened a new factory?	17:50:19
23	A. For MTPD, it was standard generally to have two	17:50:36
24	lines in a factory or in a building.	17:50:40
25	Q. And how many lines could a factory ultimately	17:50:45

EXHIBIT 10

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION
No. 07-cv-05944 SC
This Document Relates to: MDL No. 1917
...(continuing caption page 2)

SUPERIOR COURT OF THE STATE OF CALIFORNIA
CITY AND COUNTY OF SAN FRANCISCO

STATE OF CALIFORNIA, et al.,
Plaintiffs,
v.
SAMSUNG SDI, INC., CO., LTD,
et al.,
Defendants.

HIGHLY CONFIDENTIAL
Deposition of TOSHIBA CORPORATION and
TOSHIBA AMERICA CONSUMER PRODUCTS,
By and through their Corporate Designee,
YOSHIAKI UCHIYAMA
Washington DC
Wednesday, August 1, 2012
9:11 a.m.

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1 responsibility for TV operation as well as 09:21:23
2 video operation as a senior vice president, 09:21:27
3 sales and marketing. 09:21:31

4 Q. Okay. And currently, you're at 09:21:33
5 TAI. 09:21:37

6 What's your position there? 09:21:37

7 A. I'm a vice president, business 09:21:38
8 planning, corporate communications and CSR. 09:21:40

9 Q. In your experience, did TAI have 09:22:02
10 any role to play in -- in the manufacture or 09:22:05
11 sale of CRTs in the time period 1995 to 2007? 09:22:13

12 A. TAI has been a stock-holding 09:22:25
13 companies of the business operation companies 09:22:28
14 in the United States, and they supervise 09:22:32
15 the -- the business performance of each 09:22:37
16 operation companies, but the TAI has never 09:22:39
17 touched day-to-day business, like production 09:22:44
18 or sales or -- you know, production or sales 09:22:47
19 of the TVs. 09:22:51

20 Q. Okay. I didn't hear you say 09:22:58
21 that you had much in the way to do with the 09:22:59
22 production or sale of cathode ray monitors. 09:23:02

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1 Did you have any role in your 09:23:08
2 work experience in any way with cathode ray 09:23:09
3 monitors? 09:23:13

4 A. Cathode ray monitor was not 09:23:15
5 regarded as a part of the business of TACP. 09:23:16
6 It was purely television with tuners. And the 09:23:19
7 mass pitch of the CRT tubes are much bigger 09:23:32
8 than the monitor -- for monitor and very 09:23:38
9 different from those monitor tubes. 09:23:45

10 Q. All right. Let me show you 09:23:50
11 what's been previously marked as 306. 09:23:52

12 MR. LEBSOCK: And for the 09:23:56
13 benefit of the court reporter, who is new 09:23:56
14 today, the original is with another court 09:23:59
15 reporter, okay? 09:24:01

16 So I'll just hand you a copy of 09:24:03
17 this -- 09:24:06

18 MR. LAU: Okay. 09:24:06

19 MR. LEBSOCK: -- and we'll 09:24:06
20 just -- you know, we'll go with the 09:24:07
21 original with the original court reporter. 09:24:10

22 MR. LAU: All right. Thank you, 09:24:12

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1	Chris.	09:24:12
2	MR. LEBSOCK: Yeah.	09:24:13
3	Do you need more, Albie?	09:24:16
4	MR. LAU: I think that's fine.	09:24:18
5	BY MR. LEBSOCK:	09:24:30
6	Q. Mr. Uchiyama, what you have	09:24:32
7	before you has previously been marked in this	09:24:32
8	case as Exhibit 306. And what I'd like you to	09:24:34
9	do is take a look at it --	09:24:38
10	A. Okay.	09:24:40
11	Q. -- and then tell me whether	09:24:40
12	you've ever seen this document before, okay?	09:24:41
13	A. Okay.	09:24:43
14	(Whereupon, the witness reviews the	09:24:46
15	document.)	09:24:46
16	BY MR. LEBSOCK:	09:29:04
17	Q. Mr. Uchiyama, I don't want to	09:29:04
18	rush you, but have you -- do you have a	09:29:05
19	general sense as to whether you've seen this	09:29:07
20	document before?	09:29:09
21	A. No.	09:29:10
22	Q. No.	09:29:11

EXHIBIT 11

1
2 ** HIGHLY CONFIDENTIAL **
3 UNITED STATES DISTRICT COURT
4 NORTHERN DISTRICT OF CALIFORNIA
5 SAN FRANCISCO DIVISION
6 No. 3:07-cv-05944 SC
7 MDL No. 1817

8 -----x

9 IN RE: CATHODE RAY TUBE (CRT)
10 ANTITRUST LITIGATION

11 -----x

12 This Document Relates to:
13 ALL ACTIONS

14 -----x

15 July 17, 2012
16 9:00 a.m.

17 Deposition of STEVE PANOSIAN, taken
18 by Plaintiffs, pursuant to 30(b)(6)
19 Notice, held at the offices of O'Melveny &
20 Myers LLP, Seven Times Square, New York,
21 New York, before Todd DeSimone, a
22 Registered Professional Reporter and
23 Notary Public of the State of New York.
24
25

1 PANOSIAN - HIGHLY CONFIDENTIAL

2 listed under a heading called Accounts 11:21:38AM

3 Selected. What does that mean when you 11:21:42AM

4 say Accounts Selected? 11:21:46AM

5 A. So I think referring to earlier 11:21:49AM

6 when I mentioned the product planning 11:21:52AM

7 process and selection process, as we 11:21:55AM

8 present our product lineup strategy for 11:21:57AM

9 the new year, when we negotiate with our 11:22:01AM

10 dealers, when they come back to us and say 11:22:07AM

11 we will select this product and confirm it 11:22:12AM

12 provided that we meet specific, maybe a 11:22:17AM

13 price point or a margin or a program. It 11:22:22AM

14 is a very, very competitive business. 11:22:27AM

15 So at the tail end of the 11:22:30AM

16 selection process, we either gain a yea or 11:22:32AM

17 a naye, and the X denotes the fact that in 11:22:37AM

18 this case Best Buy and Circuit City, the 11:22:39AM

19 national accounts, have committed to buy 11:22:43AM

20 this particular model. 11:22:45AM

21 Q. Do you list all your national 11:22:45AM

22 accounts here? For example, you have 11:22:48AM

23 listed Sears, Circuit City and Best Buy. 11:22:50AM

24 Are those all the national accounts you 11:22:54AM

25 had at that particular point in time? 11:22:55AM

1 PANOSIAN - HIGHLY CONFIDENTIAL

2 A. Yes, at that particular point 11:22:56AM
3 in time, yes. We did not do business 11:22:59AM
4 with -- 11:23:02AM

5 Q. With who? 11:23:02AM

6 A. With like a Wal-Mart. We 11:23:03AM
7 didn't do business with Wal-Mart. 11:23:05AM

8 Q. So the X's in the next column 11:23:07AM
9 over indicate -- the X in the column 11:23:09AM
10 opposite Circuit City and also the X in 11:23:13AM
11 the column opposite Best Buy indicate that 11:23:15AM
12 you have selected this model basically to 11:23:18AM
13 attempt to sell into that account? 11:23:20AM

14 A. You are referring to the second 11:23:23AM
15 column? 11:23:24AM

16 Q. Yes. 11:23:25AM

17 A. The 2675? 11:23:25AM

18 Q. The 2678. 11:23:28AM

19 A. Yes. So yes, Best Buy, Circuit 11:23:32AM
20 City, and on the regional accounts there 11:23:36AM
21 is a listing name of Pro Group, which is a 11:23:39AM
22 buying group that consists of I think back 11:23:43AM
23 then maybe 10 or 12 dealers. 11:23:46AM

24 Q. Under Clubs, you've listed 11:23:48AM
25 three names, Sam's, Costco and BJ's. Were 11:23:52AM

1 PANOSIAN - HIGHLY CONFIDENTIAL

2 those all the club stores that you were 11:23:57AM

3 selling to at that time? 11:24:00AM

4 A. Yes. 11:24:01AM

5 Q. And under Regionals, you have 11:24:02AM

6 listed eight -- well, seven and then one 11:24:06AM

7 designation is for Others. Are those all 11:24:13AM

8 the regional accounts that you were 11:24:16AM

9 selling to at that time? 11:24:17AM

10 A. Those were the top accounts. 11:24:19AM

11 What this selection captures is the 11:24:26AM

12 customers that make up about 80 percent of 11:24:30AM

13 our business. 11:24:32AM

14 Q. Now, when you say Regionals, 11:24:32AM

15 you are talking about the fact that the 11:24:35AM

16 accounts that are listed under Regionals 11:24:37AM

17 were selling in a particular geographic 11:24:39AM

18 area of the country? 11:24:44AM

19 MR. BRADSHAW: I object to the 11:24:46AM

20 form of the question. Misstates 11:24:47AM

21 testimony. 11:24:48AM

22 Q. Is that correct? 11:24:48AM

23 A. Regional dealers are usually 11:24:49AM

24 contained to a state or a number of states 11:24:52AM

25 or a region. 11:24:55AM

1 PANOSIAN - HIGHLY CONFIDENTIAL

2 can, what the subnames or series brands or 12:07:55PM
3 those kinds of sub-Samsung brands were 12:07:59PM
4 that were marketed by Samsung for the CRT 12:08:04PM
5 TVs during that period? 12:08:07PM

6 MR. BRADSHAW: I object to the 12:08:09PM
7 form. Assumes facts not in evidence. 12:08:10PM

8 A. As it pertained to the consumer 12:08:12PM
9 TV business, every TV that we marketed had 12:08:16PM
10 the Samsung brand on it. On the bezel we 12:08:21PM
11 might have used DynaFlat. I don't believe 12:08:28PM
12 we used SlimFit. We might have used 12:08:31PM
13 SlimFit in some of the marketing materials 12:08:34PM
14 to call out the fact that it had a lower 12:08:36PM
15 depth. 12:08:38PM

16 But we didn't sub-brand -- if 12:08:39PM
17 you define sub-brand as there is Samsung 12:08:43PM
18 and then there is a completely different 12:08:46PM
19 name made by Samsung, we did not offer a 12:08:48PM
20 product like that. 12:08:52PM

21 Q. I wasn't really talking about 12:08:52PM
22 that. I was talking about whether or not 12:08:54PM
23 there was a sub-brand that might designate 12:08:55PM
24 a different degree of quality of the set 12:08:59PM
25 that you might market that way. 12:09:03PM

1 PANOSIAN - HIGHLY CONFIDENTIAL

2 A. Not that I recall during that 12:09:12PM
3 time frame. 12:09:13PM

4 Q. Who are your customers? What 12:09:16PM
5 were the categories of customers that you 12:09:18PM
6 sold sets to during this period? 12:09:21PM

7 A. Best Buy was the national 12:09:33PM
8 account that Samsung sold, and then after 12:09:35PM
9 that there was many larger TV and 12:09:40PM
10 appliance stores across the country, 12:09:47PM
11 regional accounts, locally, PC Richard, in 12:09:50PM
12 Michigan it was ABC Warehouse, H.H. Gregg 12:09:55PM
13 in Indianapolis, and so forth across the 12:10:00PM
14 country. 12:10:02PM

15 In earlier years we had 12:10:03PM
16 distributors manage the sales to smaller 12:10:05PM
17 retailers in the rural areas or tertiary 12:10:09PM
18 markets. 12:10:12PM

19 Q. Then you did use distributors? 12:10:13PM

20 A. Yes. 12:10:16PM

21 Q. During what period? 12:10:17PM

22 A. I think we took most of our 12:10:19PM
23 business direct by the -- I would say 12:10:25PM
24 between the 2003 to 2005 time frame. We 12:10:31PM
25 had taken most all of our business direct. 12:10:36PM

1 PANOSIAN - HIGHLY CONFIDENTIAL

2 Actually, I'm thinking of 12:10:41PM
3 something different. We had sales reps 12:10:44PM
4 and we installed a direct sales team 12:10:46PM
5 between the years of 2003 and 2005. We 12:10:50PM
6 still do business today through 12:10:54PM
7 distributors. 12:10:56PM

8 Q. Oh, you do? 12:10:57PM

9 A. Yes, we do. 12:10:58PM

10 Q. And you did business through 12:10:59PM
11 distributors in '95? 12:11:01PM

12 A. Yes. 12:11:05PM

13 Q. Can you tell us the names of 12:11:05PM
14 those distributors? 12:11:07PM

15 MR. BRADSHAW: What point in 12:11:09PM
16 time? Today? 12:11:11PM

17 MR. PAPALE: Well, throughout 12:11:12PM
18 the period. 12:11:13PM

19 MR. BRADSHAW: Objection, 12:11:14PM
20 overbroad. 12:11:15PM

21 A. I would have to refer to a 12:11:15PM
22 sales run to remember all of them. I will 12:11:17PM
23 start with who we are still doing business 12:11:23PM
24 with today, and it is one of the -- I 12:11:25PM
25 think it is the only one, now that I think 12:11:28PM

EXHIBIT 12

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION
No. 07-cv-05944 SC
This Document Relates to: MDL No. 1917
...(continuing caption page 2)

SUPERIOR COURT OF THE STATE OF CALIFORNIA
CITY AND COUNTY OF SAN FRANCISCO

STATE OF CALIFORNIA, et al.,
Plaintiffs,
v.
SAMSUNG SDI, INC., CO., LTD,
et al.,
Defendants.

HIGHLY CONFIDENTIAL
Deposition of TOSHIBA CORPORATION and
TOSHIBA AMERICA CONSUMER PRODUCTS,
By and through their Corporate Designee,
RICHARD EUGENE HUBER
Washington DC
Wednesday, August 1, 2012
12:51 p.m.

1 monitors before the business was 01:30:34
2 discontinued. 01:30:35
3 BY MR. LEBSOCK: 01:30:35
4 Q. Do you have any -- are there any 01:30:50
5 documents that you're aware of that can tell 01:30:56
6 us the price at which these monitors were 01:31:01
7 offered to TAIS customers? 01:31:04
8 MR. FOSTER: Objection to the 01:31:09
9 form of the question; vague and ambiguous. 01:31:09
10 You can answer. 01:31:11
11 THE WITNESS: I have not seen 01:31:15
12 personally any specific documents with -- 01:31:16
13 with suggested selling prices or anything 01:31:18
14 of that nature. 01:31:22
15 BY MR. LEBSOCK: 01:31:24
16 Q. All right. So let me back up. 01:31:25
17 How were these monitors -- and 01:31:27
18 to the extent that they were bundled with a 01:31:30
19 computer system, how were those distributed 01:31:32
20 out into the market from TAIS? 01:31:36
21 MR. FOSTER: Objection to the 01:31:38
22 form of the question. 01:31:38

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1 You can answer. 01:31:40

2 THE WITNESS: To the extent that 01:31:43

3 I understand it, TAIS had various 01:31:44

4 different sources of product, and they 01:31:48

5 also had various different channels of 01:31:51

6 distribution or markets. So that's a 01:31:53

7 little bit of a complicated question. 01:31:56

8 There was no, you know, one way 01:31:59

9 or main way it was done. 01:32:02

10 Some of the product that 01:32:04

11 contained CRT was purchased as a complete 01:32:05

12 system from outside vendors, and the 01:32:09

13 monitor would already be in it. And we 01:32:12

14 wouldn't have any involvement in that at 01:32:14

15 all. 01:32:15

16 Some of the monitors, as I 01:32:16

17 mentioned before, would have been 01:32:17

18 purchased directly from, I would assume, 01:32:20

19 the purchasing person within TAIS; in 01:32:25

20 which case, they were likely imported and 01:32:27

21 warehoused within TAIS' organization and 01:32:32

22 then distributed through one of the 01:32:35

1 various different distribution channels 01:32:38

2 that TAIS sold their products. 01:32:41

3 BY MR. LEBSOCK: 01:32:45

4 Q. Okay. And so tell me what are 01:32:45

5 the distribution channels that you're aware 01:32:49

6 of. 01:32:51

7 A. TAIS products, they sell through 01:32:55

8 several different types of channels. They do 01:33:00

9 sell through channels, such as basically big 01:33:04

10 retail operations. Their customers would be 01:33:08

11 people like Best Buy or Walmart or, you know, 01:33:13

12 somebody like that. 01:33:16

13 They also would have some, I 01:33:20

14 guess, commercial, industrial or what they 01:33:24

15 called B-to-B sales, where they would sell to 01:33:26

16 other businesses, where, you know, another 01:33:29

17 business would purchase a certain quantity of 01:33:33

18 units for their integral use. 01:33:35

19 They would also sell possibly to 01:33:40

20 outside retailers that were not traditional 01:33:44

21 retailers, perhaps, Internet resellers, like 01:33:49

22 Amazon. 01:33:51

EXHIBIT 13

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION
No. 07-cv-05944 SC
This Document Relates to: MDL No. 1917
...(continuing caption page 2)

SUPERIOR COURT OF THE STATE OF CALIFORNIA
CITY AND COUNTY OF SAN FRANCISCO

STATE OF CALIFORNIA, et al.,
Plaintiffs,
v.
SAMSUNG SDI, INC., CO., LTD,
et al.,
Defendants.

HIGHLY CONFIDENTIAL
DEPOSITION OF LG ELECTRONICS
YUN SEOK LEE
San Francisco, California
Wednesday, July 11, 2012
Volume I

Reported by:
SUZANNE F. BOSCHETTI
CSR No. 5111

EXHIBIT 14

1
2 ** HIGHLY CONFIDENTIAL **
3 UNITED STATES DISTRICT COURT
4 NORTHERN DISTRICT OF CALIFORNIA
5 SAN FRANCISCO DIVISION
6 No. 3:07-cv-05944 SC
7 MDL No. 1817

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6
7 IN RE: CATHODE RAY TUBE (CRT)
8 ANTITRUST LITIGATION

-----x

9 This Document Relates to:
10 ALL ACTIONS

-----x

12 July 16, 2012
13 9:36 a.m.

14
15 Deposition of KIM LONDON, taken by
16 Plaintiffs, pursuant to 30(b)(6) Notice,
17 held at the offices of O'Melveny & Myers
18 LLP, Seven Times Square, New York, New
19 York, before Todd DeSimone, a Registered
20 Professional Reporter and Notary Public of
21 the State of New York.

1 LONDON - HIGHLY CONFIDENTIAL

2 MR. BRADSHAW: With respect to 02:13:54PM

3 CRTs? 02:13:55PM

4 MR. PAPALE: Yes, CRT monitors. 02:13:56PM

5 A. I don't know if Bank of America 02:13:59PM

6 was buying CRT monitors, because you said 02:14:02PM

7 2007. 02:14:05PM

8 Q. I did. They were customers, 02:14:05PM

9 but not necessarily with CRT monitors? 02:14:09PM

10 A. Correct. Microsoft probably 02:14:11PM

11 for CRTs, but I don't know about Bank of 02:14:13PM

12 America. Bank of America, no, they were 02:14:17PM

13 LCDs only. 02:14:20PM

14 Q. How about AT&T? 02:14:21PM

15 A. They began with CRTs and 02:14:23PM

16 transitioned over to LCD. 02:14:26PM

17 Q. When did AT&T first become a 02:14:29PM

18 customer? 02:14:32PM

19 A. As I said, we still had CRTs. 02:14:32PM

20 I would have to look back at the contract 02:14:35PM

21 for an exact date. Probably in the late 02:14:36PM

22 '90s. 02:14:43PM

23 Q. Were there specific allowances 02:14:45PM

24 for sales volumes to some of the larger 02:14:56PM

25 customers? 02:14:58PM

1 LONDON - HIGHLY CONFIDENTIAL

2 A. Yes. 02:15:00PM

3 Q. Was there any kind of standard 02:15:00PM
4 volume discount that you provided? 02:15:06PM

5 A. It varied based upon the 02:15:11PM
6 customer, the quantity, the model, whether 02:15:15PM
7 or not it was a new product, aged product, 02:15:18PM
8 going end of life. It varied 02:15:23PM
9 significantly. And the end users would be 02:15:26PM
10 based upon competition, current 02:15:37PM
11 competition. 02:15:39PM

12 Q. Even the discounts would vary 02:15:40PM
13 based upon the competition? 02:15:44PM

14 A. Yes. 02:15:45PM

15 Q. Can you just generally explain 02:15:46PM
16 the process whereby you would enter into a 02:15:55PM
17 contract with, for example, an end user? 02:15:57PM
18 What would you do? 02:16:00PM

19 A. What would I do? 02:16:02PM

20 Q. For example, you said you 02:16:03PM
21 brought AT&T in. What was the process? 02:16:05PM

22 A. You basically call on the 02:16:07PM
23 customer, get them to standardize on the 02:16:09PM
24 product. I won't go into details. There 02:16:12PM
25 is evaluation units. You get them 02:16:18PM

1 LONDON - HIGHLY CONFIDENTIAL

2 standardized to approve the product. They 02:16:20PM

3 would approve the product. 02:16:22PM

4 Then there would be that 02:16:24PM

5 pricing discussion, who they were using at 02:16:25PM

6 the time, how Samsung compared to them 02:16:28PM

7 based upon specification and pricing. We 02:16:31PM

8 would then work, again, through AT&T, they 02:16:34PM

9 would say I need this display at this 02:16:38PM

10 price and I would back out, you know, if 02:16:41PM

11 we could do that. We would then say, 02:16:44PM

12 okay, the distributor needs to make X 02:16:49PM

13 percentage margin, the reseller needs X 02:16:52PM

14 percentage margin, AT&T needs to buy at 02:16:55PM

15 this price, I therefore then have to be at 02:16:59PM

16 this price to sell into distribution. And 02:17:02PM

17 we would come up with a contract based 02:17:05PM

18 upon that. 02:17:06PM

19 Q. Was it different when you were 02:17:07PM

20 soliciting the retailers, different 02:17:17PM

21 process? 02:17:21PM

22 A. I never solicited the 02:17:21PM

23 retailers. 02:17:23PM

24 Q. You didn't get involved with 02:17:23PM

25 them? 02:17:24PM

1 LONDON - HIGHLY CONFIDENTIAL

2 A. No, I did not. But yes, it is 02:17:25PM
3 different with the retailers. There is a 02:17:27PM
4 lot involved. There is marketing funds 02:17:30PM
5 that they require. There is co-op that 02:17:37PM
6 they require. There is shelf space. 02:17:40PM
7 There is ads. There is a lot that goes 02:17:44PM
8 into selling to the retail side of the 02:17:47PM
9 house. 02:17:49PM

10 Q. On a retail sale, was there a 02:17:50PM
11 commitment to maintain a certain price for 02:17:52PM
12 a certain period of time or was it based 02:17:55PM
13 upon just a straight price for a number of 02:17:56PM
14 units? 02:18:00PM

15 A. That I don't know. I never got 02:18:01PM
16 involved with the pricing discussions for 02:18:05PM
17 retailers. 02:18:06PM

18 Q. And resellers, how does that 02:18:08PM
19 work? 02:18:11PM

20 A. Direct resellers? 02:18:12PM

21 Q. Yes. 02:18:13PM

22 A. Direct resellers, very similar 02:18:14PM
23 situation to distributors, that we would 02:18:16PM
24 have a contract with them for a set period 02:18:21PM
25 of time but pricing would be dictated 02:18:23PM

1 LONDON - HIGHLY CONFIDENTIAL

2 based upon our pricing bulletins. 02:18:25PM

3 Q. And would a price be maintained 02:18:28PM

4 over a period of time, so, in other words, 02:18:30PM

5 you would advise them that a price is 02:18:32PM

6 going to be honored for a certain period 02:18:35PM

7 of time, or was it based upon the number 02:18:37PM

8 of units that they were ordering? 02:18:39PM

9 A. No, it was a price. So the 02:18:40PM

10 standard pricing was based upon standard 02:18:43PM

11 pricing. This is your day to day price. 02:18:46PM

12 That would go any length of time and 02:18:49PM

13 depending on we may then lower that 02:18:55PM

14 pricing. 02:18:57PM

15 But from time to time they may 02:18:58PM

16 come to us for a bulk buy where we would 02:19:00PM

17 give them a quantity discount. They may 02:19:04PM

18 come to us with a large corporate end user 02:19:06PM

19 opportunity that says hey, I can sell a 02:19:10PM

20 thousand units to AT&T if I'm at this 02:19:13PM

21 price. So we had our day to day pricing, 02:19:17PM

22 and then from there if the distributor had 02:19:20PM

23 excess inventory we had to move through, 02:19:26PM

24 we might look at pricing. If they had end 02:19:28PM

25 of life product, there are so many 02:19:34PM

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2 different situations that we might lower 02:19:36PM

3 that price to them. 02:19:37PM

4 Q. With resellers, was there a 02:19:38PM

5 master contract involved with that? 02:19:44PM

6 MR. BRADSHAW: I object to 02:19:46PM

7 form. 02:19:47PM

8 A. Direct reseller, yes. 02:19:47PM

9 Q. You say that is very similar to 02:19:48PM

10 the way you handle distributors? 02:19:50PM

11 A. Yes. 02:19:51PM

12 Q. So there was a contract, a 02:19:52PM

13 master contract with a distributor for a 02:19:54PM

14 period of time I take it? 02:19:57PM

15 MR. BRADSHAW: I object to the 02:19:58PM

16 form. Vague and ambiguous. 02:19:59PM

17 A. Yes. 02:20:01PM

18 Q. And the price would be 02:20:01PM

19 determined by your bulletins? 02:20:03PM

20 A. Yes. 02:20:04PM

21 Q. But then you would go through 02:20:04PM

22 these other exercises depending upon the 02:20:06PM

23 requirements by the distributor? 02:20:08PM

24 A. To help them move product 02:20:12PM

25 through, yes. 02:20:13PM

1 LONDON - HIGHLY CONFIDENTIAL

2 Q. What about were there any 02:20:15PM
3 distributors or resellers or retailers 02:20:17PM
4 that you gave any most favored nations 02:20:19PM
5 treatment to? 02:20:24PM

6 MR. BRADSHAW: I object to the 02:20:25PM
7 form. Vague and ambiguous. 02:20:26PM

8 Q. Have you heard the term "most 02:20:27PM
9 favored nations"? 02:20:30PM

10 A. Yes. 02:20:31PM

11 Q. What does that mean to you? 02:20:31PM

12 A. Best pricing. 02:20:33PM

13 Q. Was there any obligation or did 02:20:35PM
14 you have -- in your contracts did you have 02:20:39PM
15 any best pricing kinds of obligations to 02:20:40PM
16 any of your distributors, resellers, 02:20:44PM
17 retailers? 02:20:46PM

18 A. Not to my knowledge, no. 02:20:46PM

19 Q. Were any of your contracts 02:20:48PM
20 based on a cost plus basis? 02:21:22PM

21 MR. BRADSHAW: I object to the 02:21:24PM
22 form. Vague and ambiguous. 02:21:25PM

23 A. Not to my knowledge. 02:21:26PM

24 Q. So your pricing wasn't done 02:21:26PM
25 that way? 02:21:28PM

1 LONDON - HIGHLY CONFIDENTIAL

2 A. No. 02:21:28PM

3 Q. What about discounts and 02:21:28PM

4 rebates in connection with the sale of CRT 02:21:31PM

5 monitors, how would you apply your 02:21:33PM

6 discounts and rebates? Let's talk about 02:21:39PM

7 the distributors. What would be a 02:21:42PM

8 circumstance under which a distributor 02:21:44PM

9 would qualify for a discount or a rebate? 02:21:47PM

10 A. I reviewed some of the 02:21:52PM

11 situations just with you two minutes ago. 02:21:55PM

12 So it would be based upon a 02:21:58PM

13 quantity buy, an end user corporate 02:22:00PM

14 opportunity, competitive situation, excess 02:22:04PM

15 inventory. If the distributor had excess 02:22:11PM

16 inventory, if Samsung had excess 02:22:24PM

17 inventory, if the product was going end of 02:22:28PM

18 life, you know, it could be varied 02:22:30PM

19 situations. 02:22:32PM

20 Q. Did you distinguish at all 02:22:32PM

21 between a discount or a rebate? 02:22:35PM

22 A. Yes. 02:22:37PM

23 Q. What was that distinction? 02:22:39PM

24 A. So a discount would be a 02:22:42PM

25 pricing off of the distribution pricing. 02:22:43PM

1 LONDON - HIGHLY CONFIDENTIAL

2 A POS rebate would be a point of sale 02:22:46PM
3 rebate. So a discount would be at the 02:22:50PM
4 time of purchase and/or they would claim 02:22:55PM
5 it back. A POS rebate, they would claim 02:22:58PM
6 it back. So I guess things were handled a 02:23:02PM
7 little differently depending on what type 02:23:06PM
8 of rebate they were getting. 02:23:08PM

9 Q. Would a rebate be negotiated in 02:23:09PM
10 advance or would that be something that 02:23:11PM
11 would be done as a promotion if the sales 02:23:13PM
12 weren't going as they had anticipated? 02:23:14PM

13 A. It all depends. It could be a 02:23:17PM
14 brand new product that was negotiated in 02:23:18PM
15 advance and we said okay, we are 02:23:21PM
16 introducing this product and we are going 02:23:23PM
17 to give you this POS rebate. We would 02:23:25PM
18 know about it. The distributor might buy 02:23:27PM
19 product in and if it wasn't moving, then 02:23:30PM
20 we would say we will give you a rebate on 02:23:32PM
21 that. So, again, the situations varied. 02:23:35PM

22 Q. When you said POS, you are 02:23:38PM
23 referring to point of sale? 02:23:40PM

24 A. Yes, point of sale. So when 02:23:41PM
25 the reseller purchased it, that is at the 02:23:42PM

1 LONDON - HIGHLY CONFIDENTIAL

2 time of sale to the reseller. 02:23:45PM

3 Q. How did you record the 02:23:46PM

4 discounts and rebates in your pricing 02:23:50PM

5 structure? In other words, the pricing 02:23:54PM

6 would be set up -- we talked about the 02:23:55PM

7 software you were using for purposes of 02:23:58PM

8 your pricing. 02:24:01PM

9 MR. BRADSHAW: I object to the 02:24:03PM

10 form. Vague and ambiguous, 02:24:05PM

11 mischaracterizes testimony. 02:24:06PM

12 Q. Do you remember that this 02:24:07PM

13 morning? 02:24:07PM

14 A. Yes, I do recall. 02:24:08PM

15 Q. And I can't remember what you 02:24:10PM

16 called the software. What version was 02:24:12PM

17 that? You said it was SAP in the 02:24:14PM

18 beginning and then towards the end it was 02:24:16PM

19 something else? 02:24:19PM

20 A. Well, GSCM from a supply chain 02:24:19PM

21 management perspective, not from a pricing 02:24:24PM

22 perspective. 02:24:25PM

23 Q. So GSCM was not pricing, but 02:24:25PM

24 for pricing it was SAP? 02:24:30PM

25 A. I believe that's the system, 02:24:33PM

EXHIBIT 15

UNITED STATES DISTRICT COURT
 NORTHERN DISTRICT OF CALIFORNIA
 SAN FRANCISCO DIVISION

In re: CATHODE RAY TUBE (CRT))
 ANTITRUST LITIGATION,)
)

)
 This Document Relates to:)
)
 ALL ACTIONS.)
)

30 (b) (6) DEPOSITION OF STUDIO SPECTRUM, INC. -

KENNETH BUCKOWSKI

July 16, 2013

* Tami L. Le, CSR No. 8716
 360860

40
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1 UNITED STATES DISTRICT COURT
2 NORTHERN DISTRICT OF CALIFORNIA
3 SAN FRANCISCO DIVISION
4

5 In re: CATHODE RAY TUBE (CRT))
6 ANTITRUST LITIGATION,)
7 _____)

8 This Document Relates to:)
9 ALL ACTIONS.)
10 _____)

11
12
13
14 Videotaped Deposition of 30(b)(6)
15 STUDIO SPECTRUM, INC. - KENNETH
16 BUCKOWSKI, taken on behalf of the
17 Samsung SDI Defendants, at 333 South
18 Hope Street, 43rd Floor, Los Angeles,
19 California, commencing at 9:10 a.m., on
20 Tuesday, July 16, 2013, before Tami L.
21 Le, CSR No. 8716, RPR.
22
23
24
25

12:08 1 larger ones would bring it in through their reps.

2 Q So if you were considering buying a CRT
3 product, what would be your first step?

4 A To check the pricing on our list and to compare
12:09 5 it with the other manufacturers and select the most
6 appropriate one for the client based on what I said
7 before, the pricing and quality requirements.

8 Q So you would compare the price lists and look
9 for comparable quality products between them and try to
12:09 10 find the lowest price; is that correct?

11 A Yeah, that too, and also the availability.
12 There was a lot of problems with availability, it was
13 back-ordered, not available, so that was another factor,
14 who had product available even.

12:09 15 Q So tell me if I have this process right. You
16 would look at the various price lists, compare prices of
17 comparable products --

18 A Uh-huh.

19 Q -- look at the lower-priced product and then
12:09 20 contact that manufacturer to see if they had it in
21 stock?

22 A Yes, uh-huh. You know, after time, you know
23 where this is, I mean if you're dealing with this all
24 the time, so it was almost like second nature. This is
12:10 25 a Pana- -- this -- this needs to be filled with a

12:10 1 Panasonic product, and this one needs to be filled with
2 a Sony, and this needs to be filled with something of
3 lesser quality, but just the lowest possible price.
4 These were always dictated by the market.

12:10 5 Q When -- when you -- strike that.

6 Would it be you that would make that call to
7 the supplier to find out if it's in stock?

8 A Sometimes; more often than not, it was Kathy.

9 Q Who did you talk to at Panasonic when -- when
12:10 10 you made that call?

11 A More often than not, our primary rep was Greg
12 Gorman and we called him. And there were also people in
13 the ordering department, we have the current inventory
14 account of what was available, and Kathy might do that
12:11 15 or Greg would call over and check for us.

16 Q How do you spell Greg's last name?

17 A G-O-R-M-A-N.

18 Q And was he your primary contact at Panasonic
19 throughout the period?

12:11 20 A Beginning that period, and then Vicki Chafie,
21 C-H-A-F-I-E, became our rep following him.

22 Q Did you ever negotiate prices with Panasonic
23 for CRT products?

24 A No. It was given to us as fixed pricing.

12:11 25 Q Did you ever negotiate prices for CRT products

12:11 1 with any of your other suppliers?

2 A No, I don't recall that ever being possible. I
3 mean, it was fixed pricing.

4 Q It was understood that under the dealer
12:11 5 program, you could only purchase at the list price or at
6 the price provided on the price list?

7 A That's correct.

8 Q Did you have any CRT product suppliers that
9 didn't use a price list?

12:12 10 A No, I don't think so. They all had fixed
11 pricing, "fixed cost," as we would call it, our cost.

12 Q And did you look for these price lists to
13 produce in this litigation?

14 A Yes.

12:12 15 Q Did you produce all the ones you found?

16 A Produced all we could find, yes.

17 Q So in deciding which product to purchase, were
18 the main factors the factors that we discussed before,
19 which were namely price, suitability to the customer's
12:13 20 needs and customer's perception of the brand quality?

21 MR. WILLIAMS: Asked and answered.

22 THE DEPONENT: Yes, that's true.

23 Q BY MR. CUNNINGHAM: And then once Studio
24 Spectrum decided to make a purchase, what happened then?

12:13 25 A We would write out a memorandum of what that

12:13 1 would be, a purchase order, and then fax it to the
2 manufacturer, and they would ship from their warehouses
3 to us.

4 Q Did this process vary at all depending on what
12:13 5 the CRT product was that you were purchasing?

6 MR. WILLIAMS: Which process?

7 Q BY MR. CUNNINGHAM: The entire
8 seeking-quotes-and-placing-an-order process that we've
9 discussed so far.

12:14 10 MR. WILLIAMS: Objection to form, vague and
11 ambiguous.

12 THE DEPONENT: Well, we didn't seek quotes. It
13 was given to us, so it was just a matter of filling in
14 the purchase order with the quantity, the model number
12:14 15 and the price from our list, and extending that cost.

16 Q BY MR. CUNNINGHAM: Other than asking about
17 availability, did you have any other occasions on which
18 you would make phone contact with anybody at Panasonic?

19 A Yes.

12:14 20 Q What occasions?

21 A Technical support; suitability of different
22 products; advice on this was the problem that we've got,
23 what best fits that; or sometimes competitive
24 differences, the client is looking for some certain
12:15 25 product, and what would you have that would fill those

EXHIBIT 16

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

IN RE: CATHODE RAY TUBE) CASE NO. 07-5944 SC
(CRT) ANTITRUST LITIGATION)
)
) MDL No. 1917
)
This Document Relates to:)
)
DIRECT PURCHASER ACTIONS)
)
)

CONFIDENTIAL - ATTORNEYS' EYES ONLY

DEPOSITION OF ROYAL DATA SERVICES, INC. 30(b)(6), PHILLIP LAU

June 27, 2013

ADRIANNE HO, Hawaii CSR #388;
California CSR #11470

⊗ 359347

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1 UNITED STATES DISTRICT COURT
2 NORTHERN DISTRICT OF CALIFORNIA
3 SAN FRANCISCO DIVISION

4 IN RE: CATHODE RAY TUBE) CASE NO. 07-5944 SC
5 (CRT) ANTITRUST LITIGATION)
6) MDL No. 1917
7 This Document Relates to:)
8 DIRECT PURCHASER ACTIONS)
9)

10
11 CONFIDENTIAL - ATTORNEYS' EYES ONLY
12 VIDEOTAPED DEPOSITION OF ROYAL DATA SERVICES, INC.
13 30(b)(6), PHILLIP LAU

14 HONOLULU, HAWAII
15
16

17 Taken on behalf of Defendants, Samsung SDI
18 America, Inc., Samsung SDI Co., Ltd., Samsung SDI
19 (Malaysia) SDN. BHD., Samsung SDI Mexico S.A. DE
20 C.V., Samsung SDI Brasil LTDA., Shenzhen Samsung
21 SDI Co., Ltd. and Tianjin Samsung SDI Co., Ltd.,
at the offices of Ralph Rosenberg Court Reporters,
Inc., 1001 Bishop Street, Suite 2460, Honolulu,
Hawaii, commencing at 9:07 a.m., on Thursday,
June 27, 2013, pursuant to Notice.

22
23
24 BEFORE: ADRIANNE HO, CSR 388
25 Registered Professional Reporter
Hawaii CSR #388; California CSR #11470

12:06 1 another tube from Tatung in order to do that?

12:06 2 MR. ZAPALA: Objection to form.

12:06 3 THE WITNESS: No. We would just get a new
12:06 4 monitor.

12:06 5 BY MR. CUNNINGHAM:

12:06 6 Q Did Royal --

12:06 7 A They trusted us enough that if we said it
12:06 8 was bad then it was bad. 'Cause my tech would
12:06 9 talk to their tech. And they didn't talk English.

12:06 10 Q When you would -- in that situation, would
12:07 11 Tatung charge Royal Data for the replacement
12:07 12 monitor?

12:07 13 A No.

12:07 14 Q Never?

12:07 15 A (Witness shakes head side to side.)

12:07 16 MR. ZAPALA: You have to answer audibly.

12:07 17 THE WITNESS: No. They shipped another
12:07 18 one once we told them what was wrong.

12:07 19 BY MR. CUNNINGHAM:

12:07 20 Q Did Royal Data have a document retention
12:07 21 policy during the relevant period?

12:07 22 A No.

12:07 23 Q Did it have a document retention policy at
12:07 24 any point?

12:07 25 A No.

12:07 1 Q Do you ever recall seeing a document
12:07 2 writing out under what circumstances documents can
12:07 3 be thrown out or deleted at Royal Data?

12:07 4 MR. ZAPALA: Objection to form. Asked and
12:07 5 answered.

12:07 6 THE WITNESS: Whatever the IRS rules were.
12:07 7 But normally I ignored them, too, 'cause I -- it
12:07 8 was too much bother to throw away things, so I
12:07 9 kept everything.

12:07 10 BY MR. CUNNINGHAM:

12:08 11 Q When you say you ignore the IRS rules, you
12:08 12 mean you kept things long -- documents longer than
12:08 13 you needed to; right?

12:08 14 A Yeah. Some of the documents I have is
12:08 15 over 20 years old.

12:08 16 Q Did you ignore the IRS rules by throwing
12:08 17 out documents when you should have kept them?

12:08 18 MR. ZAPALA: Objection to form. Asked and
12:08 19 answered.

12:08 20 THE WITNESS: No.

12:09 21 (Exhibit 1718 marked for identification.)

12:09 22 BY MR. CUNNINGHAM:

12:09 23 Q Mr. Lau, you've been handed Exhibit 1718,
12:09 24 which is Plaintiff Royal Data Services, Inc.'s
12:09 25 Responses to Defendant Samsung SDI Co., Ltd.'s

12:09 1 First Set of Interrogatories. Take a minute to
12:09 2 look at this. Take your time and when you're
12:09 3 ready, you can tell me if you've seen this before.

12:10 4 A Okay.

12:10 5 Q Have you seen this before?

12:10 6 A Yeah. Since I signed it, yeah.

12:10 7 Q So that's your signature on the last page?

12:10 8 A Yes.

12:10 9 Q Did you make an effort to answer the
12:10 10 questions that are posed in this document?

12:10 11 MR. ZAPALA: Objection to form.

12:10 12 THE WITNESS: Yes.

12:10 13 BY MR. CUNNINGHAM:

12:10 14 Q Can you tell me what you did to try to
12:10 15 answer these questions? Let me try to ask a
12:11 16 better question.

12:11 17 Did you do any research to try to answer
12:11 18 these questions?

12:11 19 A No.

12:11 20 Q If you look at No. 13, Interrogatory
12:11 21 No. 13, which is on page 11. The interrogatory
12:11 22 asks you to describe the manner in which you used
12:11 23 price lists, price schedules, or published prices
12:12 24 for CRTs or CRT products in purchasing CRT
12:12 25 products or negotiating the prices of CRT products

12:12 1 you purchased from any defendants. Do you see
12:12 2 that?

12:12 3 A Yeah.

12:12 4 Q If you turn the page and look at your
12:12 5 response. You say -- I'm going to read the
12:12 6 response into the record to you. "Subject to,
12:12 7 without waiving the foregoing objections,
12:12 8 Plaintiff responds that it did not use price
12:12 9 lists, price schedules, or published prices in
12:12 10 purchasing CRT products."

12:12 11 Do you see that?

12:12 12 A Yeah.

12:12 13 Q And that's an accurate statement?

12:12 14 A Yes.

12:12 15 Q And the last sentence that reads,
12:12 16 "Plaintiff also responds that it did not negotiate
12:12 17 the price of CRT products from any defendants."

12:12 18 A Correct.

12:12 19 Q And that's accurate, also?

12:12 20 A Yes.

12:12 21 Q You didn't negotiate any monitor
12:12 22 purchases?

12:12 23 A No.

12:12 24 Q Put that one aside. Actually, let's go
12:13 25 back to this one. Could you go back to

EXHIBIT 17

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

- - -

IN RE: CATHODE RAY TUBE
(CRT) ANTITRUST LITIGATION

Master File No.

CV-07-5944-SC

MDL No. 1917

- - -

June 20, 2013

- - -

Oral deposition of STEVEN R. NUSBAUM
taken pursuant to notice, held at the Law
Offices of Morgan, Lewis & Bochiuss, 1701
Market Street, Philadelphia, PA 19102,
commencing at 9:13 a.m., on the above date,
before Jennifer P. Miller, Registered
Professional Reporter and Notary Public for
the Commonwealth of Pennsylvania.

1 were judged was pricing, correct?

2 A. Yes.

3 Q. During the relevant period, did you
4 read any CRT product industry trade
5 publications?

6 A. Yes.

7 Q. Do you recall which ones?

8 A. I subscribed to Twice Magazine,
9 which was an industry publication.

10 Q. Did any of these industry trade
11 publications assist you in how Arch
12 Electronics did business?

13 MR. GRABAR: Objection.

14 THE WITNESS: No.

15 BY MR. MARKMAN:

16 Q. Did any of these publications assist
17 you in negotiating the price of CRT products?

18 A. No.

19 Q. Were you or Arch Electronics a
20 member during the relevant period of a
21 cooperative entity or trade association or
22 organization related to CRT products?

23 A. No.

24 Q. During the relevant period, did Arch
25 Electronics ever use a process for seeking

1 bids for quotes for CRT products?

2 MR. GRABAR: Objection.

3 THE WITNESS: I really don't
4 understand that question.

5 BY MR. MARKMAN:

6 Q. During the relevant period, how
7 would you negotiate a price with Matsushita
8 regarding the CRT products?

9 MR. GRABAR: Objection.

10 You can respond.

11 THE WITNESS: There was no
12 negotiation. There was a set price that
13 we were given; that was the price we
14 purchased it from --

15 BY MR. MARKMAN:

16 Q. Did you seek any information other
17 than price when determining whether to
18 purchase CRT products from Matsushita during
19 the relevant period?

20 A. No.

21 Q. Other than price, what factors did
22 you consider important in purchasing a CRT
23 product?

24 Other than price, what factors,
25 if any, did Arch Electronics consider in

1 purchasing CRT products?

2 A. Only that the television had to meet
3 the specification of the contract.

4 Q. During the relevant period, Arch
5 Electronics was not able to negotiate a price
6 regarding CRT products with Matsushita; is
7 that correct?

8 A. Yes.

9 Q. Did you use price lists during the
10 relevant period when purchasing CRT products
11 from Matsushita?

12 A. Yes.

13 Q. How frequently did you receive price
14 lists from Matsushita during the relevant time
15 period?

16 MR. GRABAR: Objection.

17 THE WITNESS: I would say every
18 six months as a minimum.

19 BY MR. MARKMAN:

20 Q. Did Arch Electronics ever receive a
21 purchase price that was different from the
22 listed price?

23 A. No.

24 Q. Do you know if other purchasers of
25 Matsushita CRT products used the same price

EXHIBIT 18

[TRANSLATION]

VISITATION REPORT (For submission)

[Handwritten:] TO: Senior Manager Yang

Date: November 27

Attended: SDD - Mr. K. H. Lee, Mr. D. E. Lee, Mr. Son
LG - Mr. Choi, Mr. Y. I. Jeong, Mr. K.Y. Ko
Orion - Mr. H. C. Moon, Mr. B. I. Jeong, Mr. Karil. Min, Mr. H. S. Oh
Thai CRT - Mr. Boochoo

CPT Members: Director Chih-Chun (C.C.) Liu, Ching-Yuan (Michael) Du

Topic: Status of 14"/20"/21" CPT Demand & Supply and Pricing Opinion Review

Content:

(A) *Market Overview:*

1) First of all, the meeting attendees commented on *CPT* market situation and have all agreed that although the overall *TV Demand* showed a slight growth, it was primarily on the larger sizes; the small and medium sizes showed either a negative growth or remained the same. Due to the season, the major *TV* makers do not need *tube* and their demands are worse than that of two months ago. Currently, there are no signs of market recovery for Q1 next year, therefore, the market demands should be even worse.

2) As for the second tier tube makers that are using low pricing to grab orders, due to the ease of locality, the following makers will each investigate their current production/sales status: *LG*→*Rainbow/Samtel*, *CPTUK*→*Ekranas* and request them to *keep* their current selling prices. In addition, it is forecasted that *Glass* supply will face a *Shortage* next year. Everyone should work diligently to pressure the *Glass Vendors* not to supply *Glass* to those second tier makers, so that they would not be not able to have enough *Glass* to ruin the market pricing.

(B) Review of the production capacity and '99/1Q planned production volume of the six makers:

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

1) *Capacity Review:*

MAKER	COUNTRY	LINE	PRODUCTS	INDEX	CAPA (KP/M)				
					TTL	14" %	14"	MED %	MED
CPT	Malaysia	#1	14"	12.0	180	100%	180	0%	0
		#2	14" cpt & CDT	12.0	180	0%	0	0%	0
		#3	20"/21"	15.4	140	0%	0	100%	140
		#4	14"	12.0	180	100%	180	0%	0
	Taiwan	#1	20"	15.4	140	0%	0	20%	28
					821		360		168
LGE	Korea	H1	20"	10.2	212	0%	0	100%	212
		H2	21"	11.8	183	0%	0	100%	183
		H3	14" cpt & CDT	10.2	212	0%	0	0%	0
	Indonesia	#1	14"	12.6	171	100%	171	0%	0
		#2	20"/21"	13.7	158	0%	0	100%	158
					936		171		552
OEC	Korea	BSF	14"	14.0	154	100%	154	0%	0
		BSC	14"/20"	19.0	114	50%	57	50%	57
		BSL	20"	14.0	154	0%	0	100%	154
		O-7	20"/21"	10.0	216	0%	0	100%	216
	Vietnam	#1	14"/16"/20"/21"	13.0	166	70%	116	10%	17
					804		327		444

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

MAKER	COUNTRY	LINE	PRODUCTS	INDEX	CAPA (KP/M)				
					TTL	14" %	14"	MED %	MED
SDD	Korea Malaysia	P1	20"/21"	11.5	188	0%	0	100%	188
		#1	14"	11.5	188	100%	188	0%	0
		#2	14"	11.5	188	100%	188	0%	0
		#3	20"	12.0	180	0%	0	100%	180
		#5	14"/16"	11.5	188	80%	150	0%	0
					931		526		368
THAI	Thailand	#1	14"	26.2	82	100%	82	0%	0
		#2	14"/20"	26.2	82	50%	41	50%	41
		#3	20"/21"	30.0	72	0%	0	100%	72
		#4	21"/25"	36.0	60	0%	0	50%	30
					297		124		143
TSB	Thailand	#2	21"/25"	15.0	144	0%	0	50%	72
	Indonesia	#1	14"/20"	10.0	216	80%	173	20%	43
					360		173		115

3) *Working Review:*

MAKER	COUNTRY	LINE	PRODUCTS	WORKING DAYS				
				JAN	FEB	MAR	TTLQ1	%
CPT	Malaysia	#1	14"	17	17	17	51	57%
		#2	14" cpt & CDT	0	0	0	0	0%
		#3	20"/21"	16	16	16	48	53%
		#4	14"	17	17	17	51	57%
	Taiwan	#1	20"/CDT17	3	3	3	9	10%
LGE	Korea	H1	20"	20	21	28	69	77%
		H2	21"	21	20	27	68	76%
		H3	14" cpt & CDT	0	0	0	0	0%
	Indonesia	#1	14"	27	27	27	81	90%
		#2	20"/21"	17	19	23	59	66%
OEC	Korea	BSF	14"	20	20	14	54	60%
		BSC	14"/20"	24	22	27	73	81%
		BSL	20"	15	15	17	47	52%
		O-7	20"/21"	26	22	25	73	81%
	Vietnam	#1	14"/16"/20"/21"	25	25	25	75	83%
SDD	Korea Malaysia	P1	20"/21"	20	18	19	57	63%
		#1	14"	20	20	20	60	67%
		#2	14"	20	20	20	60	67%
		#3	20"	20	21	22	63	70%
		#5	14"/16"	14	14	14	42	47%
THAI	Thailand	#1	14"	15	16	20	51	57%
		#2	14"/20"	15	16	20	51	57%
		#3	20"/21"	15	15	18	48	53%
		#4	21"/25"	16	16	16	48	53%

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Translator's remarks are indicated in brackets [].

MAKER	COUNTRY	LINE	PRODUCTS	WORKING DAYS				
				JAN	FEB	MAR	TTLQ1	%
TSB	Indonesia	#1	14"/20"	18	23	23	64	71%

☆ LG claims that it only has one production line for 14", and it has to supply the worldwide 14" tube demand for LG Electronics; therefore, the utilization was able to be maintained at about 90%. In addition, Orion claimed that Korea will cease one line starting from April, therefore, they need to maintain extra production days in Q1 [Underlined by hand]. In an overall view of Q1, all makers are taking action to reduce production according to order status so no further discussion was conducted on this topic.

(C) *Price ('98/Q4, '99/Q1) – Esp. Orion Thai/Aiwa*

Orion Thai and Aiwa are the only ones which have confirmed Q1 pricing next year as follow:

CTV MKR	CPT	99Q1			
		14"		20"	
		U/PRICE	CONDITION	U/PRICE	CONDITION
ORION (THAI)	CPT	30.00	ARR LC AT	50.00	ARR LC AT
	THAI	30.00	ARR 45D	50.00	ARR 45D
	TEDI	30.00	CIF 30D	50.00	CIF 30D
AIWA (PH' /MAL THAI)	SDD	31.50	CIF LC AT	50.50	CIF LC AT
	LGE	31.50	CIF LC AT	50.50	CIF LC AT
	OEC	31.50	CIF LC AT	50.50	CIF LC AT
	THAI	(31.50)	ARR 45D	50.50	ARR 45D
	CPT	31.50	CIF LC AT	50.50	CIF LC AT

As for *Orion (Thai)*'s 14" price, in order to digest its inventory of *DY, TEDI (TSB-Indonesia)* was the first to *Offer* a low price of *USD30.00*, forcing *CPT/Thai-CRT* to follow suit in order to maintain the original *M/S*. *Aiwa*'s price was decided by Korea *SDD/LGE/OEC* after negotiation. Due to *Orion (Thai)*'s 14" price being the lowest and other *TV* makers not being able to compete with *Orion*, they have been requesting low prices one after the other. With *Thai-CRT/TEDI*'s promise that they would not grab *Chunghwa Picture Tube*'s *M/S* orders (maintained at the original 50%) and that they will follow the prices, the Korean makers requested *Chunghwa Picture Tube* to take the lead in the price up to *USD 32.00/pcs* for *Shipment* to *Orion (Thai)* in January (*Mr. Moon* said he could arrange a meeting for the three top decision makers to confirm actual implementation method). And, to show support for this plan, Korean *SDD/LG/OEC* will all quote *USD35.00/pcs* to *Mr. Otake* when he asks for a price quote. As for the price to *Aiwa* and *TCE*, they will be maintained at their original *Offer* for the time being and if the price up to *Orion* is successful, then the price will be raised to *USD32.50/pcs*.

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Translator's remarks are indicated in brackets [].

With regards to this proposal, Director Liu stated that, Chunghwa Picture Tube only has 1 line plus for 14" production currently; although *Orion's M/S* reached 50%, each maker has its own *Major Account*. Moreover, *TEDI (TSB-Indonesia)* is the cause of the low price incident this time, yet Chunghwa Picture Tube is asked to *Cover the Problem* and to be the first to risk losing orders, which is rather unfair. Price up action should be a synchronized effort to be taken by at least the three makers. Only *Thai-CRT* insisted that CPT should first raise its price before they would follow suit. Because no conclusion could be reached, *Chairman Mr. Moon* said he will report again to President Lin on another day.

- End of Report -

Respectfully submitted for approval.

[Initialed:] Chieng-Yuan (C.Y) Lin 12/3

[Initialed:] Chen-Cheng (Tony) Chien 12/3

[Initialed:] Chih-Chun (C.C.) Liu 12/3

[Signed:] Submitted by Ching-Yuan (Michael) Du 12/2/'98

[Signed:] Wen-Chun (Tony) Cheng 12/3/'98

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

洽訪報告(呈)

日期：11/27

洽訪人員：SDD-Mr.K.H.Lee, Mr.D.E.Lee, Mr.Son

LG-Mr. Choi, Mr.Y.I.Jeong, Mr.K.Y.Ko

Orion- Mr.H.C.Moon, Mr.B.I.Jeong, Mr.Karl.Min, Mr.H.S.Oh

Thai CRT-Mr. Boochoo

CPT 人員：劉處長, 杜清源

主題：14"/20"/21" CPT 供需狀況及價格意見檢討

內容：

(A)Market Overview：

①與會人員先就 CPT 市場狀況發表意見，與會人員皆同意 TV Demand 整體雖有微幅成長，但主要是在大尺寸部分，中、小尺寸不是負成長就是持平；現因季節因素、TV 生產大戶不需要 tube，需求比前 2 個月差。明年第一季現亦無任何跡象顯示市場會復甦，市場需求應會更差。

②對現低價搶單的映管次級廠商，由 LG→彩虹/Samtel、CPTUK→Ekranas 就近了解其產銷現況及要求其 keep 現行售價。另預期明年 Glass 將面臨 Shortage，大家亦應努力給 Glass Vendor 壓力不要供應 Glass 給這些次級廠商，讓他們無法拿到足夠的 Glass 來破壞市場價格。

(B)6 家廠商產能及'99/1Q 計劃生產量檢討：

①Capacity Review:

MAKER	COUNTRY	LINE	PRODUCTS	INDEX	CAPA (KP/M)				
					TTL	14" %	14"	MED %	MED
CPT	Malaysia	#1	14"	12.0	180	100%	180	0%	0
		#2	4"cpt & CD	12.0	180	0%	0	0%	0
		#3	20"/21"	15.4	140	0%	0	100%	140
		#4	14"	12.0	180	100%	180	0%	0
	Taiwan	#1	20"	15.4	140	0%	0	20%	28
					821		360		168
LGE	Korea	H1	20"	10.2	212	0%	0	100%	212
		H2	21"	11.8	183	0%	0	100%	183
		H3	4"cpt & CD	10.2	212	0%	0	0%	0
	Indonesia	#1	14"	12.6	171	100%	171	0%	0
		#2	20"/21"	13.7	158	0%	0	100%	158
					936		171		552
OEC	Korea	BSF	14"	14.0	154	100%	154	0%	0
		BSC	14"/20"	19.0	114	50%	57	50%	57
		BSL	20"	14.0	154	0%	0	100%	154
		O-7	20"/21"	10.0	216	0%	0	100%	216
	Vietnam	#1	14"/16"/20"/21"	13.0	166	70%	116	10%	17
					804		327		444

MAKER	COUNTRY	LINE	PRODUCTS	INDEX	CAPA (KP/M)				
					TTL	14" %	14"	MED %	MED
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		#1	14"	11.5	188	100%	188	0%	0
		#2	14"	11.5	188	100%	188	0%	0
		#3	20"	12.0	180	0%	0	100%	180
		#5	14"/16"	11.5	188	80%	150	0%	0
					931		526		368
THAI	Thailand	#1	14"	26.2	82	100%	82	0%	0
		#2	14"/20"	26.2	82	50%	41	50%	41
		#3	20"/21"	30.0	72	0%	0	100%	72
		#4	21"/25"	36.0	60	0%	0	50%	30
					297		124		143
TSB	Thailand	#2	21"/25"	15.0	144	0%	0	50%	72
	Indonesia	#1	14"/20"	10.0	216	80%	173	20%	43
					360		173		115

② Working Review:

MAKER	COUNTRY	LINE	PRODUCTS	WORKING DAYS				
				JAN	FEB	MAR	TTLQ1	%
CPT	Malaysia	#1	14"	17	17	17	51	57%
		#2	14"cpt & CDT	0	0	0	0	0%
		#3	20"/21"	16	16	16	48	53%
		#4	14"	17	17	17	51	57%
	Taiwan	#1	20"/CDT17	3	3	3	9	10%
LGE	Korea	H1	20"	20	21	28	69	77%
		H2	21"	21	20	27	68	76%
		H3	14"cpt & CDT	0	0	0	0	0%
	Indonesia	#1	14"	27	27	27	81	90%
		#2	20"/21"	17	19	23	59	66%
OEC	Korea	BSF	14"	20	20	14	54	60%
		BSC	14"/20"	24	22	27	73	81%
		BSL	20"	15	15	17	47	52%
		O-7	20"/21"	26	22	25	73	81%
	Vietnam	#1	14"/16"/20"/21"	25	25	25	75	83%
SDD	Korea Malaysia	P1	20"/21"	20	18	19	57	63%
		#1	14"	20	20	20	60	67%
		#2	14"	20	20	20	60	67%
		#3	20"	20	21	22	63	70%
		#5	14"/16"	14	14	14	42	47%
THAI	Thailand	#1	14"	15	16	20	51	57%
		#2	14"/20"	15	16	20	51	57%
		#3	20"/21"	15	15	18	48	53%
		#4	21"/25"	16	16	16	48	53%

4

(C) Price('98/Q4,'99/Q1)-Esp. Orion Thai / Aiwa

CTV MKR	CPT	99Q1			
		14"		20"	
		U/PRICE	CONDITION	U/PRICE	CONDITION
ORION (THAI)	CPT	30.00	ARR LC AT	50.00	ARR LC AT
	THAI	30.00	ARR 45D	50.00	ARR 45D
	TEDI	30.00	CIF 30D	50.00	CIF 30D
AIWA (PH' /MAL THAI)	SDD	31.50	CIF LC AT	50.50	CIF LC AT
	LGE	31.50	CIF LC AT	50.50	CIF LC AT
	OEC	31.50	CIF LC AT	50.50	CIF LC AT
	THAI	(31.50)	ARR 45D	50.50	ARR 45D
	CPT	31.50	CIF LC AT	50.50	CIF LC AT

—以上報告—

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EXHIBIT 19

[TRANSLATION]

[Handwritten:]

→ Tony

Du

CPTMYang

[Handwritten:]

•CPT Management Meeting

Could it be held on the same day in the afternoon of 9/20?

•Who is the next Chairman?

•Working level meeting, who will attend from CPT?

Visitation Report (Submit)

Date: August 23, 1999

Visitors: SDD— Mr. Inn Kim, Mr. D.E. Lee, Mr. Y.S. Moon, Mr. Michael Son
LG— Mr. S.Y. Choi, Mr. G.I. Choi, Mr. Hwa-Kyu Lee, Mr. C.S. Choi, Mr. K.J. Park
Orion— Mr. H.C. Moon, Mr. H.K. Cho, Mr. Karl Min
Thai— Mr. Thanasa, Mr. Boonchoo

CPT Personnel: Senior Manager Cheng, Senior Manager Yang, Ching-Yuan (Michael) Du

Topic: Market Information Exchange and Price Review

Content:

(A) Previous meeting follow up:

1) TSB Indonesia issue:

Mr. Moon said that TSB has in fact *Delayed* implementing the price increase in Indonesia, and that although he has spoken to TSB personnel over the phone, up until today, he has not had the chance to speak to high-level management in person and will be arranging for himself and Mr. H.K. Cho to meet with high-level TSB managers to persuade TSB to follow up on Indonesia prices.

2) IRICO:

Mr. Moon said that he and Director Liu of CPT have communicated twice with IRICO and that IRICO has agreed to raise its 14" ITC prices from the original USD 26 to USD 29-30. However, because PH's current price is only USD 32.5 (returning to FOB Asia Price of around USD 26-27), the price

English words found in the original text are *italicized*.

Translator's remarks are indicated in brackets [].

increase is being delayed. Senior Manager Cheng explained that *CPT* has pushed *PH* on numerous occasions to increase prices by at least October, but *PH* is still concerned about *Orion/CPT/IRICO*'s prices, so *CPT* and *Orion*'s Mr. Moon will continue to communicate with *PH* and *Push*.

3) *BMCC*:

SDD said that *BMCC* has raised its original *Bare Tube* sales price of USD 29.5 for *MTV* to USD 30.5 following communications with *SDD*.

(B) *Market update*:

1) *Market Overview*:

Each maker's market *up-dates* are as follows:

- Market demand is stable, and supply has decreased:
 - Beginning in Q4, *OEC* will only have two lines remaining in the Asia Pacific region: one 20"/21" line remaining in Korea and one 14"/20"/21" line in Vietnam.
 - *SDD Pusan*'s 20"/21" *CPT* line has been converted to produce 19" *CDT/21" CPT*
 - *SDD Mexico*'s 20"/21" *CPT* line will be converted in November to produce 25V/27V *CPT* line
 - *LG UK*'s 20"/21" *CPT* half line has been converted to produce 15" *CDT*
 - *Russia* and *CIS* markets have begun to rebound, but still need time
 - *Some set makers have started looking for new CRT sources*
 - *Low price still offering (IRICO, Samtel, Philips Brazil, Ekranas, etc.)*
- The attendees agreed with *SDD Mr. Inn Kim*'s proposal to approach the above-mentioned *CRT* manufacturers who have been destroying the market price with low-price competition and provide these manufacturers with timely *updates* on the market situation on demand and price information in order to convince them to follow suit.

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

Division of labor among each maker is as follows:

• *CPT* → *IRICO* • *SDD* → *BMCC*, *PH Brazil* • *OEC* → *TSB*
Indonesia, *Ekranas* • *LG* → *Samtel*

Additionally, *OEC's Mr. Cho* explained that, as far as he knows, *Ekranas* is currently employing two production lines – one 14” and one 20”/21” [Underlined by hand]. *Ekranas* has improved production quality by around 0.4%, and mainly supplies customers in Turkey, Italy, and Poland. It can provide *Daewoo's* Poland factory with *one day delivery*. Senior Manager Cheng explained that *PH's* Spain factory has 14” production capacity of less than 3.5M, but that it has raised production capacity to around 4M by moving one line over from its Austria factory.

2) *Updated status of Orion/SREC/TCE/Aiwa/Funai*

Each maker's Q3 *offer price* and order volume are disclosed in detail in the appendix. In particular:

- *Orion: Thai CRT* has agreed to *FLW* CPT prices by increasing *USD1* in September
- *SREC: LG/CPT/SDD/TSB* and others' current prices and volumes are as follows:

SREC, current price (AUG) & order Q'TY

VENDOR	SIZE	PRICE (8)	JUL	AUG	SEP
LGE	14”	30 C	15	15	0
	20”	49 C	2	0	0
CPT	14”	29.5 A	47	32	30
	20”	JUL47 A	1	4.5	1
SDD	14”	29.8 A	25	20	20
	20”	47.25 A	2	1	1
TSB	14”	29.3 C	10	10	10
	20”	46.5 C	0	0	5
Total	14”		97	77	60
	20”		5	5.5	7

LG's Deputy Choi complained that *SREC LG* is the *Leader* and gives quotations using everyone's *Agreed Price*; however, no one *FLW*, thereby resulting in zero order for *LG*. *LG* can certainly again *offer* low pricing, and in that case, everyone will once again start competing by slashing prices, resulting in no profit for anyone. Therefore, he requests that *CPT/SDD* readjust back to the *Agreed Price*. Senior Manager Cheng explained that there are fewer orders of 20”, so *CPT* can immediately readjust back;

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

however, there is still *TSB* competing for 14", therefore, it will be difficult. *SDD* also indicated that it cannot increase the price back until Q4, but this requires reinforcing communications with local sales persons to prevent this type of situation from happening again. Senior Manager Yang stated that currently *SREC* will not accept anyone's price quote due to *PH (Brazil)*'s low pricing, so everyone must discuss how to respond to this, and *SDD* agreed. The attendees also believe that *SREC* will not really use *PH (Brazil)*'s tube. After discussion, it was resolved that *CPTM/LG S'pore/SDDM* people will review together and finalize.

- *TCE*: *Thai CRT* raise 20" price up to USD 52.5
- *Aiwa*: *Thai CRT* starting October will raise 14" price to USD33

3) *Anti-Dumping*:

SDD Mr. Inn Kim suggested that each of the makers can review and discuss together the questionnaire from the EU in order to cooperate in completing the investigation smoothly. All meeting attendees expressed agreement.

(C) *Demand & Supply*:

With regard to Q4 *Demand & Supply*, *Mr. Chairman* asked all attendees to again *Check* customers' volume requirements and each maker's *CRT* plan for production volume and report back for review at the next meeting.

(D) *Pricing for '99/Q4*:

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

1. *Keep the current agreed price: 14" Bare – USD30, 20" Bare – USD49*
2. *Europe price should be normalized (keep the reasonable price gap)*
– *try to increase European price*

(E) *Next meeting:*

1. *Managing level meeting*
 - *Sep. 21, AM 0900 (Tuesday)*
 - *Taoyuan, Taiwan (CPT)*
2. *Working level meeting*
 - *Sep. 13, AM 0900 (Monday)* [Underlined by hand]
 - *Sereban, Malaysia (SEDM)*

- End of Report -

Submitted for approval.

[Initialed:] Chih-Chun (C.C.) Liu 8/27

[Signed:] Submitted by Ching-Yuan (Michael) Du, 8/25/'99

[Initialed:] Chen-Cheng (Tony) Chien 8/26

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

Updated status of OSTAF

Special customers	ORION		SREC		TCE		AIWA		FUNAI	
Team leader	CPT		LGE		SDD		Thai		OEC	
Agreed Price	CIF 450		ARR AS		CIF AS		CIF AS		ARR AS	
14" (ITC \$3.5)	\$32 (120K)	←	\$33.5 (120K)	←	\$32.5 (100K)	←	\$33 (40K)	←	\$33.5 (120K)	←
20" (ITC \$4.5)	\$53 (30K)	52.00	\$54.5 (50K)	53.50	\$53.5 (20K)	52.50	\$54 (20K)	53.00	\$54.5 (100K)	53.50
Current price	99Q2(Q'TY/M)	99Q3(Q'TY/M)	99Q2(Q'TY/M)	99Q3(Q'TY/M)	99Q2(Q'TY/M)	99Q3(Q'TY/M)	99Q2(Q'TY/M)	99Q3(Q'TY/M)	99Q2(Q'TY/M)	99Q3(Q'TY/M)
CPT 14"	\$29 (60K)	\$31/9 (80K)		\$29.58	\$31 (50K)	\$32.5 (50K)	(4K)	\$33 C(4K)	(50K)	\$30B (70K)
20"	(40K)	\$50/9 (50K)		—	(2K)	\$52.5 (2K)	(2K)	\$53 C(2K)	(4K)	\$49B (10K)
LGE 14"	X	X	\$29B C(30K)	\$30B/8 C	—	—	31.50	\$33 (0K)		\$30B (40K)
20"	X	X	\$47.25B C(10K)	\$49B/8 C	\$50 (20K)	\$52.5 (20K)		\$54 (4K)		—
OEC 14"	X	X			X	X	X	X	\$28B C(30K)	\$30B C(40K)
20"	X	X			X	X	X	X	\$47B C(30K)	\$49B C(80K)
SDD 14"	X	X	\$29B	\$29.8B/8		\$29.1B C(15K)	\$32(4K)	\$33.5 (0K)		\$30.3B (40)
20"	X	X	—	—		—	—	—		\$49.5B (10K)
Thai 14"	\$29 (45K)	\$30/7 (70K)	X	X	\$30.5 (45K)	\$31.5 (55K)	\$30.6 (5K)	\$31.5/8 (5K)	X	X
20"	\$48 (35K)	\$49 (70K)	X	X	—	52.00	—	—	X	X
TSB 14"	(20K)	\$29.5 A(20K)	\$29.3B C(10K)	\$29.3B C(10K)	X	X	\$31 C(15K)	\$31 C(15K)	\$28.5B C(15K)	\$28.5B C(15K)
20"	—	—	—	\$46.5B C(5K/9)	X	X	\$49.5 C(8K)	\$49.5 C(8K)	\$46.5B C(35K)	\$48.5B C(35K)

English words found in the original text are *italicized*.

Translator's remarks are indicated in brackets [].

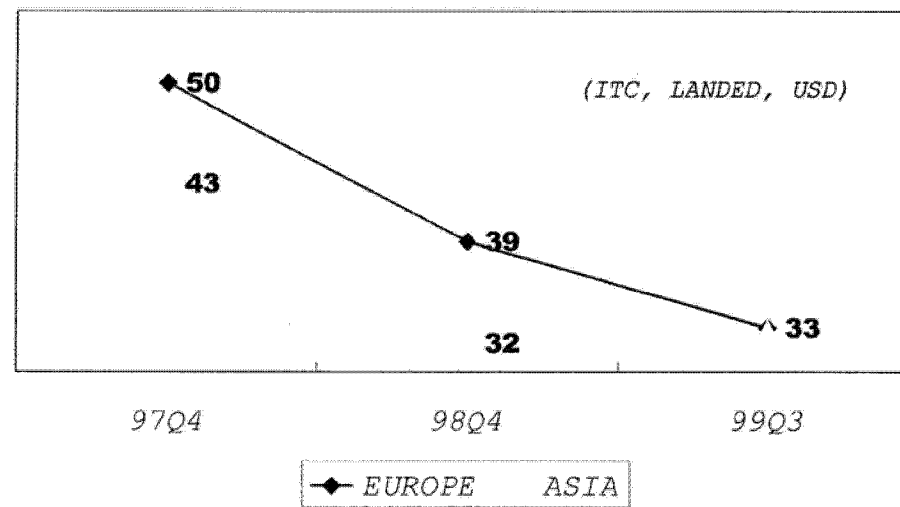
CONFIDENTIAL – GRAND JURY MATERIAL

CHU00029182E

TV Glass Meeting

PGM 990823

14" Price trend



Narrowed price gap among region

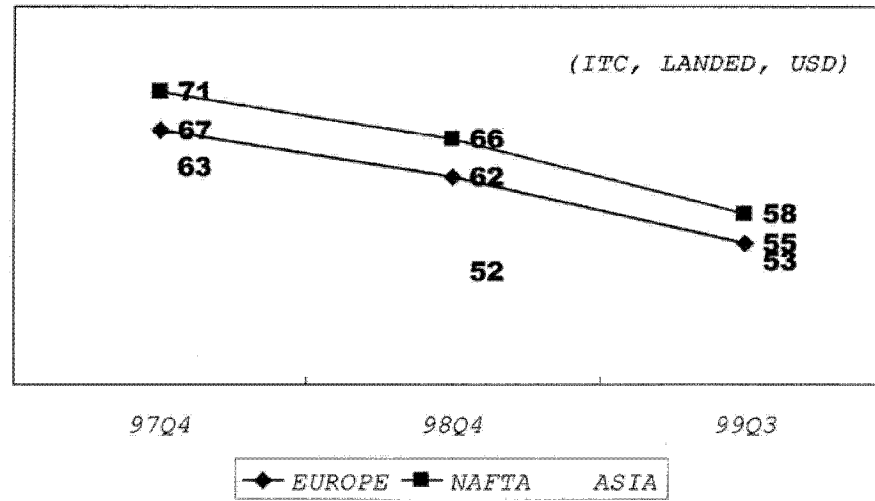
English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

CONFIDENTIAL – GRAND JURY MATERIAL

CHU00029183E

TV Glass Meeting

TGM 990823

20" Price trend*Narrowed price gap among region*

English words found in the original text are *italicized*.
 Translator's remarks are indicated in brackets [].

CONFIDENTIAL – GRAND JURY MATERIAL

CHU00029184E

洽訪報告(呈)

日期：1999-08-23

洽訪人員：SDD-Mr.Inn Kim, Mr. D.E.Lee, Mr.Y.S. Moon, Mr.Michael Son

LG-Mr.S.Y. Choi, Mr.G.I.Choi, Mr.Hwa-Kyu Lee, Mr.C.S.Choi, Mr.K.J.Park

Orion- Mr.H.C.Moon, Mr.H.K.Cho, Mr.Karl.Min

Thai- Mr.Thanasa, Mr.Boonchoo

CPT 人員：鄭經理,楊經理,杜清源

主題：市場資訊交流及價格檢討

內容：

(A)Previous meeting follow up：

①TSB Indonesia issue：

Mr.Moon 稱 TSB 印尼確實 Delay 價格調漲，其雖有和 TSB 人員電話洽談過，但迄今仍無機會和高層人員面對面洽談，其將安排於近日和 Mr. H.K.Cho 與 TSB 高層人員晤談說服 TSB 印尼價格跟進。

②IRICO：

Mr.Moon 說明經與華映劉處長兩次和 IRICO 人員溝通後，IRICO 同意調整 14" TTC 價位從原 USD26 至 USD 29~30，但現因 PH 價格僅 USD32.5(還原由亞洲出貨 FOB Price 約 USD26~27)，故現亦延遲調漲行動。鄭經理說明華映已數度 push PH 答應至少 10 月份調漲，但 PH 仍擔心 Orion/CPT/IRICO 的價格，將會同 Orion Mr.Moon 再和 PH 溝通 Push。

③BMCC：

SDD 表示 BMCC 原價格為 USD29.5(Bare Tube)，在 SDD 與其溝通後，現對 MTV 的售價已調至 USD30.5。

(B)Market update：

①Market Overview：

各家針對市況 up-date 縱合如下：

●市場需求穩定維持，供應減少：

-OEC 第 4 季起於亞太地區韓國僅剩一線 20"/21"，越南一線 14"/20"/21"

-SDD Pusan 廠原一線 20"/21"CPT 已改生產 19"CDT/21"CPT

- SDD Mexico 廠原一線 20"/21"CPT 將自 11 月初改生產 25V/27V CPT

-LG UK 廠原半線 20"/21"CPT 現已改生產 15"CDT

●Russia、CIS 市場雖已開始恢復，但仍需要時間

●Some set makers started looking for new CRT sources

●Low price still offering(IRICO、Samtel、Philips Brazil、Ekranas 等)

與會人員同意依 SDD Mr. Inn Kim 提議，對低價競爭破壞市場價格的上述 CRT 廠商，須要與會人員分工向上述 CRT 廠商不時 update 市場供需情況及價格訊息，說服他們

亦能跟進。各家分工如下：

◆CPT→IRICO◆SDD→BMCC, PH Brazil◆OEC →TSB 印尼, Ekranas ◆LG→Samtel。
另 OEC Mr.Cho 說明依其了解 Ekranas 產銷現況為共有 2 線, 1 線 14", 1 線 20"/21",
品質已有改善約 0.4%, 主要賣土耳其、義大利、波蘭等地的客戶, 對 Daewoo 波蘭
工廠可提供 one day delivery。另鄭經理說明原 PH 西班牙廠 14" 產能不超過 3.5M, 但
現自其奧地利廠移來一線, 產能已至 4M 左右。

②Upated status of Orion/SREC/TCE/Aiwa/Funai

各家第 3 季的 offer price 及訂單量詳如附件, 其中

●Orion 部分 Thai CRT 同意 9 月份起 FLW 華映價格再調漲 USD1。

●SREC: LG/CPT/SDD/TSB 等各家廠商現價及訂單量為：

SREC, current price (AUG) & order Q'TY

VENDOR	SIZE	PRICE (8)	JUL	AUG	SEP
LGE	14"	30 C	15	15	0
	20"	49 C	2	0	0
CPT	14"	29.5 A	47	32	30
	20"	JUL 47 A	1	4.5	1
SDD	14"	29.8 A	25	20	20
	20"	47.25 A	2	1	1
TSB	14"	29.3 C	10	10	10
	20"	46.5 C	0	0	5
Total	14"		97	77	60
	20"		5	5.5	7

LG 崔常務抱怨於 SREC LG 是 Leader, 以大家 Agreed Price 報價, 但大家並未
FLW, 使得 LG 訂單趨於零, LG 亦可重新以低價 offer 如此一來大家又開始削價競
爭, 大家皆無利潤。故請 CPT/SDD 能重新調回 Agreed Price。鄭經理表示 20" 部分
訂單量少華映可即調回, 惟 14" 因尚有 TSB 的競爭, 恐較困難。SDD 亦表示第 4 季
才可能漲回, 惟稱應再加強當地業務人員的溝通, 以避免此種狀況再發生。楊經理
稱現 SREC 因 PH(Brazil) 的低價已不接受任何一家的報價, 大家必須檢討如何因應,
SDD 亦表同意。與會人員亦認為 SREC 並不會真正使用 PH(Brazil) 的 tube, 經討論
後決議由 CPTM/LG S'pore/SDDM 人員共同檢討後定案。

●TCE: Thai CRT raise 20" price up to USD 52.5

●Aiwa: Thai CRT 10 月份起 14" 價格調至 USD 33

③Anti-Dumping:

SDD Mr. Inn Kim 提議各相關廠商可共同商議檢討歐盟的問卷, 彼此合作順利完成
調查。與會人員皆表同意。

(C) Demand & Supply:

針對第 4 季的 Demand & Supply, Mr. Chairman 請與會各家再 Check 客戶的需求量及各
家 CRT 的計劃生產量並於下次的會議提報檢討。

(D) Pricing for '99/Q4:

①Keep the current agreed price : 14" Bare—USD30 , 20" Bare—USD49

②Europe price should be normalized(keep the reasonable price gap)

--try to increase European price

(E)Next meeting :

①Managing level meeting

—Sep. 21, AM 0900(Tuesday) 、

—Taoyuan, Taiwan(CPT)

②Working level meeting

—Sep. 13, AM 0900(Monday)

—Sereban, Malaysia(SEDMA)

—以上報告—

恭呈核示

Handwritten notes and signatures in Chinese:

Handwritten signature: 李/明

Handwritten signature: 何/亞

Handwritten text: 林清源 8/15/99

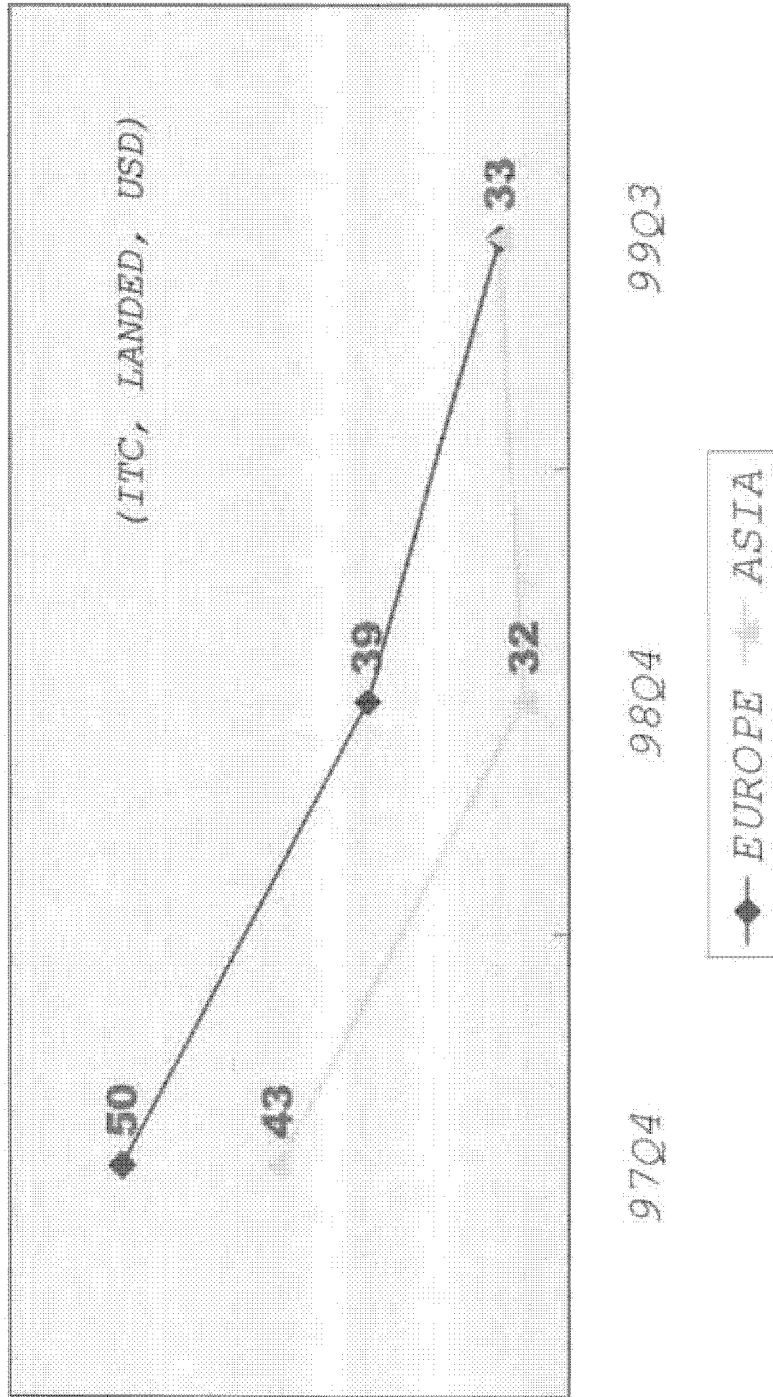
Updated status of OSTAF

Special customers		ORION		SREC		TCE		AIWA		FUNAI	
Team leader		CPT		LGE		SDD		Thai		OEC	
Agreed price		CIF 45D		ARR AS		CIF AS		CIF AS		ARR AS	
14"	(ITC \$3.5)	\$32 (120K)	<--	\$33.5 (120K)	<--	\$32.5 (100K)	<--	\$33 (40K)	<--	\$33.5 (120K)	<--
20"	(ITC \$4.5)	\$53 (30K)	52.00	\$54.5 (50K)	53.50	\$53.5 (20K)	52.50	\$54 (20K)	53.00	\$54.5 (100K)	53.50
Current price		99Q2(Q'TY/M)	99Q3(Q'TY/M)	99Q2(Q'TY/M)	99Q3(Q'TY/M)	99Q2(Q'TY/M)	99Q3(Q'TY/M)	99Q2(Q'TY/M)	99Q3(Q'TY/M)	99Q2(Q'TY/M)	99Q3(Q'TY/M)
CPT	14"	\$29 (60K)	\$31/9 (80K)		\$29.5B	\$31 (50K)	\$32.5 (50K)	(4K)	\$33 C(4K)	(50K)	\$30B (70K)
	20"	(40K)	\$50/9 (50K)		-	(2K)	\$52.5 (2K)	(2K)	\$53 C(2K)	(4K)	\$49B (10K)
LGE	14"	X	X	\$29B C(30K)	\$30B/8 C	-	-	31.50	\$33 (0K)		\$30B (40K)
	20"	X	X	\$47.25B C(10K)	\$49B/8 C	\$50 (20K)	\$52.5 (20K)		\$54 (4K)		-
OEC	14"	X	X			X	X	X	X	\$28B C(30K)	\$30B C(40K)
	20"	X	X			X	X	X	X	\$47B C(30K)	\$49B C(60K)
SDD	14"	X	X	\$29B	\$29.8B/8		\$29.1B C(15K)	\$32 (4K)	\$33.5 (0K)		\$30.3B (40)
	20"	X	X	-	-		-	-	-		\$49.5B (10K)
Thai	14"	\$29 (45K)	\$30/7 (70K)	X	X	\$30.5 (45K)	\$31.5 (55K)	\$30.5 (5K)	\$31.5/8 (5K)	X	X
	20"	\$48 (35K)	\$49 (70K)	X	X	-	52.00	-	-	X	X
TSB	14"	(20K)	\$29.5 A(20K)	\$29.3B C(10K)	\$29.3B C(10K)	X	X	\$31 C(15K)	\$31 C(15K)	\$28.5B C(15K)	\$28.5B C(15K)
	20"	-	-	-	\$46.5B C(5K/9)	X	X	\$49.5 C(8K)	\$49.5 C(8K)	\$46.5B C(35K)	\$46.5B C(35K)

TV Class Meeting

TGM 990823

14" Price trend

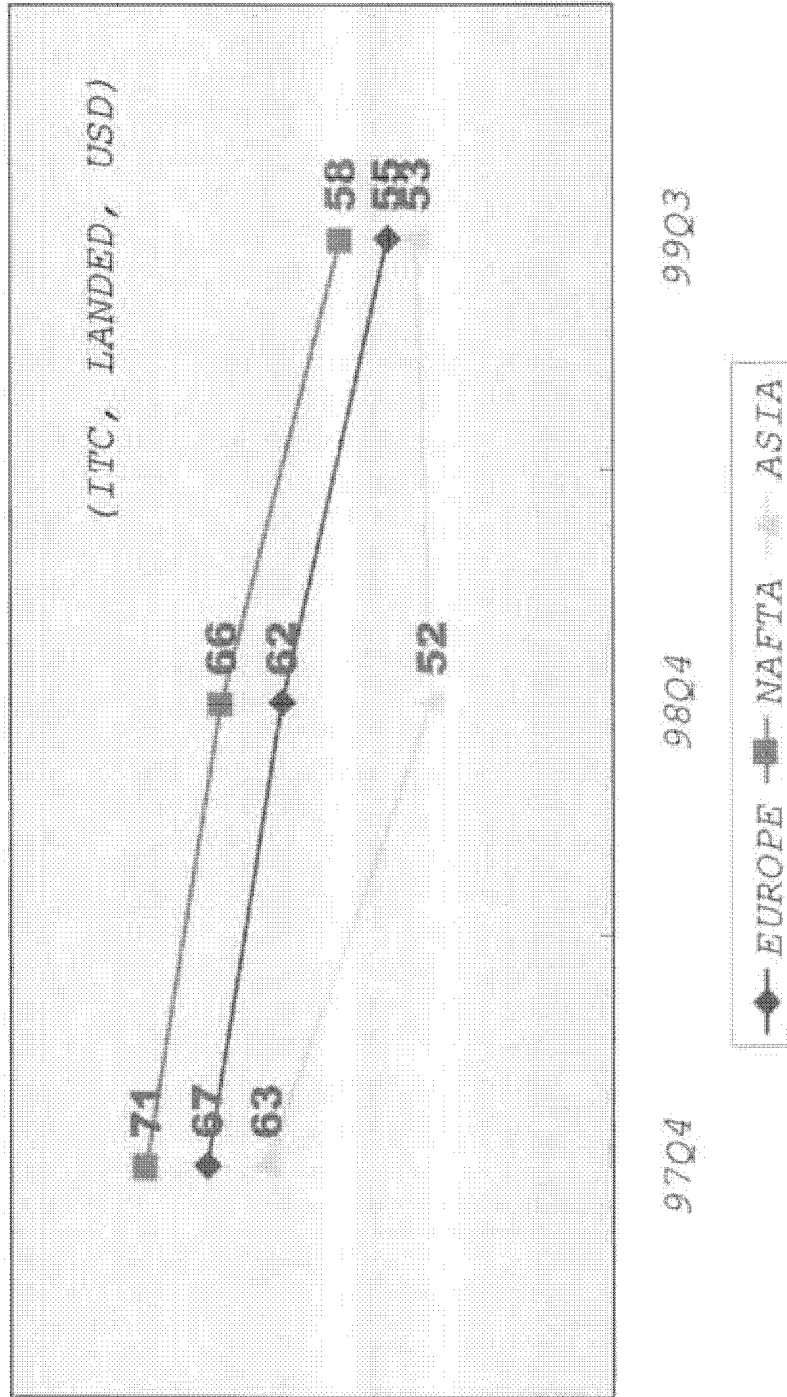


Narrowed price gap among region

TV Class Meeting

CONFIDENTIAL

20" Price trend



Narrowed price gap among region

EXHIBIT 20

[TRANSLATION]

CPTF Sales Department Visitation Report

Meeting Topic: Mainland China *CDT* Market Exchange

Time: '00/06/09 Location: Beijing

Meeting Attendees: *CPTF*: Director Jing-Song (Jason) Lu, Wei-Lie Yu

IRICO: Vice Department Manager Jun Yao

SDD: Department Manager Myoung Sik Lee, Section Chief
Zhen Yang, Section Chief Jun Cui/*TSDD*, Xiao-Mei
Yu's/*SSDD*

BMCC: Manager Xin-Wen Huang

LG: President Zong-Mei Park, Vice President Sung Yuol
Shin/Shenzhen Office

PHS: Min-Hui Zhen/*TWN*, Director Dong Liu/*HF*

ORION: Myong Doek Park, Ming-Xue Wu/Shanghai

Content:

I. 00. *MAY-JUNE* exchange on production, sales and inventory figures of
Mainland China *CDT* (see attachment 1).

II. Explanation:

1. *SDI*:

- The sales demand in the domestic market is vigorous. 17"*CDT* is especially booming in both production and sales; the production and sales of 15"*CDT* also basically balance out because of its reduced production.
- Due to the overall shortage of glass bulbs for 14"*CDT* and because the products of this size have no profit base, Samsung planned to gradually decrease mass production of 14"*CDT*. It is estimated that mass production of only 60-80k/m will be maintained by Q4. Instead, the production of 17"*CDT* will be greatly increased.
- With regard to the plan of Samsung Shenzhen's new production lines, the matter is not finalized (Department Manager Li indicated that the line is predicted to be 17"/19"*CDT*). Will continue follow its developments.

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

2. *PHS*:

- Obviously feel the market picking up, the demand in the domestic sale market of 15" *CDT* is especially growing steadily. The market is expected to enter into a hot sales period.
- The production lines that shifted from Taiwan are *under skdl* to begin mass production in September [Underlined by hand]. Director Dong Liu indicated that they are all compatible lines for 14"/15"/17".
- Also indicated that *PHS* Netherlands would withdraw its case against Mainland China's *CTV anti* [Crossed out by hand][Handwritten: "dumping"], in order to avoid Mainland China's unfavorable measures towards its *Local* plant.

3. *IRICO* (*IRICO*):

- Because the order from existing customers is getting better, the inventory for 15" *CDT* is dropping slightly. However, *PHS* and *SDI* questioned *IRICO* for disrupting the domestic sales market in Mainland China with its current pricing. They both requested it to conduct business with a price difference of *RMB20*.
- Indicated that it stopped production for 7 days in May to act in concert with the worldwide production stoppages. In addition, it will also stop production for 7 days in June due to the reconstruction of screen *coating*. Will confirm before 6/14 regarding the *audit* time and personnel.

[Handwritten:] *IRICO* has a high overlapping of domestic sale customers with Samsung and Huapu. Its low pricing has caused more and more reactions from Samsung and Huapu. However, *IRICO* always vehemently refuses to admit this. The three-party conflict will be a hidden problem in the future.

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

4. *ORION*:

- It is predicted that the demand for 15"/17" *CDT* will pick up somewhat in July. However, due to the supply conflict of 14" *CDT*, and due to the customers' request of matching sales, it is feared that the order for 15"/17" *CDT* will be affected.
- With regard to the joint venture project with Mainland Xincheng, the people from the relevant department of Mainland China government confirmed on the site that the government still has not approved it. It was just the local government's own wishful thinking.

[Handwritten:] Ministry of Information Industry, which is in charge of the industry, has not been informed yet, and is inclined to not to support the project.

5. *LG* (The Worldwide Mass Production Situation):

	'00. May		'00. June	
	Production	Sales	Production	Sales
15"	690k	760k	720k	690k
17"	790k(including RFx120k)	770k	840k	760k
19"	170k	180k	200k	180k

RE:

- 1) Affected by the demand of *LG Monitor*, the overall sales of *CDT* will be weaker in June.
 - 2) Its current production lines have been set up *in Korea* as: 15"x3L, 17"x4L (17"RF x 1L), 19"x1L; *in England*: 15"/17" each 1L, will readjust to: 15"x1.5L, 17"x0.5L in July.
- III. Price *ISSUE*: The baseline prices of 14"/15"/17" (*based on MPR2*) will be adjusted to *usd54/67/88* respectively for deliveries starting 7/01.
- IV. The next *CDT* meeting is scheduled to be hosted by *IRICO* in Xian on 07/06 2:30PM. Will focus on reviewing the implementation situation of the new prices.

-End of report-

Submit to

[Initialed:] Peng JUN 15/2K

Section Chief

Senior Manager

[Handwritten: "Respectfully submitted to"] President

English words found in the original text are *italicized*.

Translator's remarks are indicated in brackets [].

[Handwritten:]

Respectfully submitted to Sales Department Assistant Vice President Cheng
Director

[Initialed:] Peng *JUN 15/2K*

[Signed:] Afan Tseng 6/13 2K

On Behalf of

[Initialed:] Jing-Song (Jason) Lu 6/13'00

Submitted by Wei-Lie Yu

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

	Type	Prod	'00.05.Sale			E/Stock	Prod	'00.06.Sale			E/Stock	Remark
			Ttl	Local.sa	Export.sa			Ttl	Local.sa	Export.sa		
Philips	14"(Local)	81	80	34	46	1	96	96	55	41	0	
	15"(Local)	82	80	79	1	3	97	98	94	4	0	
	15"(Import)		92		92			110		110		
	17"(Import)		95	10	85			120	35	85		
Sdd	14"(Local)	144	144	74	70	0	120	120	60	60	0	
	14"(Import)											
	15"(Local)	152	154	82	70	2	160	162	92	70 [Circled by hand]	0	
	15"(Import)		230		230			240		240		
	17"(Local)	65	65	45	20	0	80	80	60	20	0	
	17"(Import)		240		240			250		250		
Cpt	14"(Local)	268	263	17	246	35	170	195	5	190	10	
	14"(Import)		110		110			160		160		
	15"(Local)	73	147	95	52	20	170	180	131	49	10	
	15"(Import)		330		330			330		330		
	17"(Import)		570		570			490		490		
Orion	14"(Import)		24		24			24		24		
	15"(Import)		61		61	0		81		81	0	
	17"(Import)		21		21	0		29		29	0	
Bmcc	14"(Local)	0	1		1	8		1		1	7	
Irico	15"(Local)	70	90	90	0	151	80	100	100	0	131	
Lg	14"(Import)		0									
	15"(Import)	0	130		130			130		130		
	17"(Import)	0	230		230			230		230		

Total	14"(Local)	493	488	125	363	44	386	412	120	292	17	
	14"(Import)		134	0	134			184	0	184		
	15"(Local)	377	471	346	123	176	507	540	417	123	141	
	15"(Import)		843	0	843			891	0	891		
	17"(Local)	65	65	45	20	0	80	80	60	20	0	
	17"(Import)		1156	10	1146			1119	35	1084		

English words found in the original text are *italicized*.

Translator's remarks are indicated in brackets [].

CONFIDENTIAL – GRAND JURY MATERIAL

CHU00031020E

CPTF 业务部 洽 访 报 告

会议主题：大陆 CDT 市场交流

时间：'00/06/09

地点：北京

与会人员：

CPTF：吕经理镜松，余伟列 IRICO：姚军副部长

SDD：李明植部长杨真课长，崔军课长/TSDD，于晓梅's/SSDD

BMCC：黄新闻经理 LG：朴宗政总经理，辛升烈副总经理/深圳办事处

PHS：郑敏辉/TWN，刘东处长/HF ORION：朴明德，吴明学/上海

内容：

一、00. MAY-JUNE 大陆 CDT 产销存数据交换(如附件一)

二、说明：

1. SDI:

- 内销需求旺盛，尤其是 17"CDT 更呈产、销两旺状况；15"CDT 由于因应减产，亦使产、销基本平衡。
- 由于 14"CDT 整体玻壳不足及该尺寸产品无利基性，三星拟计划渐减少 14"CDT 量产，到 Q4 预计仅维持量产 60—80k/m；而全面提高 17"CDT 的生产数量。
- 深圳三星新生产线的规划案仍未定案（据李部长表示，预计为 17"/19"CDT），续掌握其动态。

2. PHS:

- 明显感受到市场回升，尤其是 15"CDT 内销市场需求稳健上升。预期市场进入热卖阶段。
- 台湾迁移生产线将 under skdl 于 9 月量产，据刘东处长表示，均系 14"/15"/17"兼容生产线。
- 另表示荷兰 PHS 将撤回对大陆 CTV 倾销案，以期避免受大陆对其 Local 工厂之不利措施。。

3. IRICO(彩虹电子):

- 由于既有客户订单好转，致 15"CDT 库存稍有下降。惟对其现行价格扰乱大陆内销市场受到 PHS、SDI 的质疑，均要求其按差价 RMB20 元方式进行作业。
- 表示彩虹配合全球停产协调，已于 5 月停产 7 天；另 6 月亦将因屏 coating 改造而将停产 7 天，惟对 audit 时间及人员于 6/14 前予以确认。

此次的三星及华浦内销总量增加，是低库存造成三星及华浦之库存量增加，但三星的库存并不低，三星的库存量是来自主要。

4. ORION:

- 预计 7 月 15"/17"CDT 需求将有所回升, 但受到 14"CDT 供给矛盾, 在客户要求配售下, 恐将影响 15"/17"CDT 的订单。
- 与大陆信诚合资案在大陆政府相关部门人员的当场确认下, 至今仍未获政府许可, 仅是当地政府的一厢情愿。

主计划之信息产业部, 至今未获通知, 且倾向
向不支付账款。

5. LG (全球量产状况):

	'00.5 月		'00.6 月	
	产	销	产	销
15"	690k	760k	720k	690k
17"	790k (其中 RFx120k)	770k	840k	760k
19"	170k	180k	200k	180k

RE:

- (1) 受 LG Monitor 需求影响, 致 CDT 整体 6 月销售较弱些。
- (2) 现其生产线设置为 in Korea: 15"x3L, 17"x4L (17"RFx1L), 19"x1L; in England: 15"/17"各 1L, 其中 7 月将调整为 15"x1.5L, 17"x0.5L。

三、价格 ISSUE: 14"/15"/17" (based on MPR2) 基准价格于 7/01 起交货分别调整为 usd54/67/88。

四、下次 CDT 会议预计于 07/06 PM2:30 由 IRICO 在西安主办, 重点检讨新价格实施状况。

~以上报告~

呈

课长

经理

总经理



↑
2nd 15/2k

常
6/13/2k

余伟列 总经理
21 长

131w

余伟列

	Type	Prod	'00.05.Sale			E/stock	Prod	'00.06.Sale			E/stock	Remark
			Ttl	Local.sa	Export.sa			Ttl	Local.sa	Export.sa		
Philips	14"(Local)	81	80	34	46	1	96	96	55	41	0	
	15"(Local)	82	80	79	1	3	97	98	94	4	0	
	15"(Import)		92		92			110		110		
	17"(Import)		95	10	85			120	35	85		
Sdd	14"(Local)	144	144	74	70	0	120	120	60	60	0	
	14"(Import)											
	15"(Local)	152	154	82	70	2	160	162	92	70	0	
	15"(Import)		230		230			240		240		
Cpt	17"(Local)	65	65	45	20	0	80	80	60	20	0	
	17"(Import)		240		240			250		250		
	14"(Local)	268	263	17	246	35	170	195	5	190	10	
	14"(Import)		110		110			160		160		
Orion	15"(Local)	73	147	95	52	20	170	180	131	49	10	
	15"(Import)		330		330			330		330		
	17"(Import)		570		570			490		490		
	14"(Import)		24		24			24		24		
Bmcc	15"(Import)		61		61	0		81		81	0	
	17"(Import)		21		21	0		29		29	0	
	14"(Local)	0	1		1	8		1		1	7	
	15"(Local)	70	90	90	0	151	80	100	100	0	131	
Lg	14"(Import)		0									
	15"(Import)	0	130		130			130		130		
	17"(Import)	0	230		230			230		230		
Total	14"(Local)	493	488	125	363	44	386	412	120	292	17	
	14"(Import)		134	0	134			184	0	184		
	15"(Local)	377	471	346	123	176	507	540	417	123	141	
	15"(Import)		843	0	843			891	0	891		
	17"(Local)	65	65	45	20	0	80	80	60	20	0	
	17"(Import)		1156	10	1146			1119	35	1084		

EXHIBIT 21

[TRANSLATION]

[Handwritten:] To: Senior Manager Du → ~~Chung~~ [Crossed out by hand] / Yu / Zun
→ *file*

Visitation Report

Meeting Topic: Market Exchange by *CDT MAKERS* of Mainland China

Time: JUL. 10, 2000

Location: Xian

Meeting Attendees:

<i>CPTF</i> : Senior Manager Jing-Song (Jason) Lu; Zun Chen	<i>ORION</i> : Section Chief Park; Manager Wu
<i>SDI</i> : Department Manager Yu; Zhen Yang; Jun Cui	<i>PHS</i> : President Jin; Dong Liu
<i>IRICO</i> : Zhi-Yuan Wei; Jun Yao; Yuan Liang	<i>LG</i> : Section Chief Park; Manager Shin

Contents:

- (I) Information Exchange on the production and sales in *JUN/JUL* (see attachment)
- (II) Explanation:

1) *SDD*:

- ☐ To implement the agreement of stopping production, *TSDI* stopped production for one week in June. The output for 15" is 153K. Continue to reduce production in July, *Output 150k*.
- ☐ *SSDI 14"/17" CAPA 200K/M*. The power supply will be affected due to the reconstruction (20"/21"/21"*RF*) of 21"*CPT* production lines in July, will stop production for one week. The estimated output will be 150K.
- ☐ The new 17"/17"*RF*/19" line is planned to start production in *Q1* of next year.
- ☐ The domestic sales of 17" were also affected by the import quotas. 40K has been schedule for July, but without certainty.
- ☐ There is a shortage of 14" glass bulbs. Nowadays Zhongkang Samsung *YIELD* very

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Translator's remarks are indicated in brackets [].

fast, *CDT BULB CAPA*. 14"/15"/17" *TTL* 300K/M, but still not enough to supply *SDI*. Also, it is not willing to produce 14", so partially use glass bulbs from Anyang. However, the quality is much poorer, and not intended to improve either. The output of 17" *GLASS BULB* is minimum. *SDI* mainly relies on import. Department Manager Yu indicated that Zhongkang could strike a balance between profit and loss this year.

- It is predicted that 15" *Mini-Neck* will *PHASE-OUT* by the end of the year.
- *SDI* - the production and sales volume in 1999 is 23M. It is estimated to reach *Max. 27M* this year. 17"/19" *RF* sell like hot cakes. It is predicted that by 8/E the flat tube production lines of 17"x4L and 19"x1L will both be compatible with *NORMAL* tubes.
- With regard to this year's output of *SEC Monitors*, Department Manager Yu indicated that the current estimation is about 15M, which is a conservative estimate. The meeting attendees from *LG* and *PHS* claimed that it should be 18~20M.

2) *PHS*:

- June is a big month for *PHS*, increased production by 40K. The production lines will go through equipment repairs and maintenance in July, plus the summer break. It's estimated to stop production for one week. Reduce production by 40K.
- At present the sales situation is good. The inventory in Taiwan was cleared (sold to Korea and *ATSB*). It is forecast that there will be a *SHORTAGE* of 15" models in August, so insist on price increases.
- Indicated that the domestic sales are booming. Already used up the quotas for domestic sales of 17". The new line is scheduled to be utilized in September, will be able to start domestic sales of 17" immediately.
- The new 3 *Lines* are expected to start utilization in September/October. Next year there will be only 5 lines left in Taiwan, the remainder will be shifted to Mainland China. The production and sales volume of *PHS's CDT* is forecast to be *MAX 10Million* this year.
- Will not give up on 14" this year. As for next year, will make the decision depending on the market situation and the supply of raw materials.

3) *LG*:

- ☐ The sales in June/July were not as good as expected.
- ☐ The production and sales situation *W/W*:

	<u><i>JUNE</i></u>		<u><i>JULY</i></u>	
	<i>PROD.</i>	<i>SALE</i>	<i>PROD.</i>	<i>SALE</i>
15"	720	720	720	700
17"	840	730 (120K <i>FLAT</i>)	840	730 (120K <i>FLAT</i>)
19"	200	170	192	142

- ☐ Changsha *LG 3RD* line 29"/34" will start *P/P* this month. In addition, 15"/17" *CDTX1L* is expected to start mass production in May of next year.
- ☐ The production and sales volume of *LG's CPT* in 1999 *W/W* is 15*M*. It is estimated to reach 19~20*M* this year.
- ☐ Spoke evasively when questioned by us as to why it still produced so much when the order for 17" was poor. Indicated that the headquarters was the decision maker.

4) *ORION*:

- ☐ The sales are getting better. There is a shortage of 14"/15" glass bulbs. [Handwritten:] Claimed that there is a serious shortage of 14" *GLASS BULB*. Not certain whether can produce 40K in July!
- ☐ In June, except for 10K each sold to *EMC/Beitai*, the remaining 17" were all sold to *AOC*. The majority of 14"/15" were also sold to *AOC*, including about 40-50K/M 15" *Mini-neck*.
- ☐ At present, the Mainland government still has not approved the Mainland *CDT* joint venture project. Besides, the Chinese party in the joint venture has financial issues yet to solve.

5) *IRICO*:

- ☐ Limited some production in June, reduced about 10K production. The production and sales volume in July is about the same as that of June, but the inventory is still high, reached 120K. *IRICO* indicated that the market is still not getting better, and none of its customers are willing to accept its price increase request.
- ☐ The joint venture project with *TSB* is expected to start utilization of 17" in the first

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 Translator's remarks are indicated in brackets [].

half of next year. The infrastructure of the plant is under construction. This line will convert *TSB*'s old line. *TSB* will account for 60% of the holding shares. Also indicated that if the first line proceeds smoothly, then it's possible to introduce 19"/21" *CDT*x2*L*.

- In terms of the glass bulbs, will self-make the *FUNNEL*; *PANEL* will be supplied by Shanghai *ASAHI*. It is expected to also self-produce some *PANEL* by the end of the year. In the meantime, also hope *PHOS* and glass bulbs can strengthen cooperation with *CPT*.

(III) Price *ISSUE*:

- With regard to implementing the 14"/15" price increase resolution of the *TOP MANAGEMENT* in July, *PHS/SDD* all indicated that the customers had accepted. *CPT* indicated that 15" encountered some resistance, but still implemented firmly. On the other hand, however, *LG/ORION/IRICO* are still in an observation state.
- Additionally, based on information by *SDD*, *IRICO/ORION/LG* are still grabbing orders with low prices at the market:

<i>IRICO</i>	<i>RMB</i> 612 (100K)	Great Wall
	<i>USD</i> 61	Xoceceo
<i>ORION</i>	<i>USD</i> 60-61	<i>EMC</i>
<i>LG</i>	<i>USD</i> 61~62	Xoceceo
	<i>USD</i> 61	<i>EMC</i>

ORION indicated that the tube type sold to *EMC* was 15" *GLARE* 48K *B+D* model, so was not sold low.

LG did not admit to that, and was quiet dissatisfied with this practice of *SDD*.

IRICO indicated that it had not *OFFERED* such low prices.

(IV) The meeting conclusion:

- A) Ask each maker to implement the price increase of 14"/15" earnestly. As for 17", wait for the decision from *TOP MANAGEMENT*.
- B) The meeting attendees all agree that the GLASS [Underlined by hand] *MEETING* in Mainland China have positive significance in stabilizing the *CDT* market. However, at present the meeting resolutions usually cannot be implemented. In order to avoid them becoming formalities, requested each party to follow up actively with cooperation.
- C) In order to better grasp the Mainland *MONITOR* market tendency, Department Manager Yu suggested each attending party to produce 3 months of market *FORECAST* as a follow up. Also in August will review the production and sales situation of the first half of this year for the Mainland China *MONITOR MAKERS*.

(V) The next meeting will be hosted by *SDI*. Time: *AUG* 11, Location: Tianjin.

– End of report – Submitted for approval

Submitted by: Employee, Zun Chen
JUL. 12, 2000

[Handwritten:]

The meeting attendees all hoped that the meeting could continue. And I indicated that all meeting attendees are expected to have some contributions (including cooperation in the price increase, sharing the market information and etc.), so as to avoid the meeting from becoming formality, or even becoming somebody's (refer to *IRICO*) way of speculating and taking advantage of the opportunity.

[Initialed:] Jing-Song (Jason) Lu 7/12'00

Respectfully submitted to: President Peng of *CPTF*
Sales Department Director Cheng
Vice President

[Signed:] Afan Tseng 7/12 2K
Acting

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

BMCC Mr. Huang FAX: 010-64363162

	Type	Prod	'00.06.Sale			E/Stock	Prod	'00.07.Sale			E/Stock	Remark
			Ttl	Local.sa	Export.sa			Ttl	Local.sa	Export.sa		
Philips	14"(Local)	101	101	69	32	1	60	61	46	15	0	
	15"(Local)	101	101	98	3	3	60	63	63	0	0	
	15"(Import)		104		104			90		90		
	17"(Import)		122	44	78			90		90		
SDI	14"(Local)	126	130	55	75	0	100	100	40	60	0	
	14"(Import)				0					0		
	15"(Local)	156	153	83	70	7	150	157	95	62	0	
	15"(Import)		210		210			230		230		
	17"(Local)	75	75	45	30	0	50	50	40	10	0	
	17"(Import)		250		250			270		270		
CPT	14"(Local)	170	193	10	183	12	158	160		160	10	
	14"(Import)		160		160			170		170		
	15"(Local)	175	175	50	125	20	158	160		160	18	
	15"(Import)		340		340			360		360		
	17"(Import)		490		490			530		530		
Orion	14"(Import)		38		38			40		40		
	15"(Import)		105		105	0		100		100	0	
	17"(Import)		65		65	0		50		50	0	
BMCC	14"(Local)											
IRICO	15"(Local)	71	75	75	0	127	75	80	80	0	122	
LG	14"(Import)		0		0			0		0		
	15"(Import)	0	130		130			120		120		
	17"(Import)	0	210		210			200		200		

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Translator's remarks are indicated in brackets [].

Total	14"(Local)	397	424	134	290	13	318	321	86	235	10	
	14"(Import)		198	0	198			210	0	210		
	15"(Local)	503	504	306	198	157	443	460	238	222	140	
	15"(Import)		889	0	889			900	0	900		
	17"(Local)	75	75	45	30	0	50	50	40	10	0	
	17"(Import)		1137	44	1093			1140	0	1140		
	Total	975	3227	529	2698	170	811	3081	364	2717	150	

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Translator's remarks are indicated in brackets [].

◎ ◎ ◎ 接洽報告 ◎ ◎ ◎

會議主題：大陸 CDT MAKER 市場交流

時間：JUL.10,2000

地點：西安

與會人員：

CPTF：呂鏡松 处长、陳遵	ORION：朴課長；吳經理
SDI：魚部長；楊真；崔軍	PHS：金總；劉東
IRICO：魏致遠；姚軍；梁援	LG：朴課長；辛經理

內容：

一. JUN/JUL 產銷訊息交換 (如附)

二. 說明

1) SDD：

- ☐ 6 月 TSDI 因執行停產協定，減產 1 周，15" 產量 153K。7 月將繼續減產，Output 150k
- ☐ SSDI 14"/17" CAPA 200K/M，7 月則因 21" CPT 生產線改造(20"/21"/21"RF)，動力供給影響，將停產 1 周，預計產量 150K。
- ☐ 新線 17"/17"RF/19" 擬於明年 1Q 投產。
- ☐ 17" 內銷亦受進口配額困擾，7 月雖排 40K，但無把握。
- ☐ 14" 玻壳短缺，中康三星現 YIELD 提升很快，CDT BULB CAPA. 14"/15"/17" TTL 300K/M，還是不足供應 SDI，且其不願意生產 14"，故部分採用安陽玻壳，但品質較差，且改善意願差。17" GLASS BULB 產量極少，SDI 主要仍依賴進口。魚部長表示今年中康可達損益平衡。
- ☐ 15" Mini-Neck 預計年底將 PHASE-OUT。
- ☐ SDI 99 年產銷量 23M，今年預計 Max. 27M。17"/19"RF 熱銷，預計 8/E 平面管生產線 17"X4L，19"X1L。均可與 NORMAL 管兼容。
- ☐ SEC Monitor 今年產量，魚部長表示目前預測約 15M，應是保守估計。與會 LG 及 PHS 人員稱應在 18~20M。

2) PHS：

- ☐ 6 月為 PHS 大月，增產 40K。7 月生產線將作設備檢修另夏休，預計停產 1 周。減產 40K。
- ☐ 目前銷售形勢好，台灣庫存已清完[銷往韓國及 ATSB]。預測 15" 機種在 8 月將 SHORTAGE，因此堅決要求漲價。
- ☐ 表示內銷需求旺盛。17" 內銷配額已用完，預計 9 月新線稼動，即可開始 17" 內銷。
- ☐ 新線 3Lines 預計 9 月/10 月開始稼動。明年台灣僅留 5 線，余均移至大陸。今年預測 PHS CDT 產銷量 MAX 10Million。
- ☐ 14" 今年仍不會放棄，明年則視市場狀況及原料供應再做決定。

3) LG:

- ☐ 6月/7月销售并不如预期好。
- ☐ W/W产销状况:

	JUNE		JULY	
	PROD.	SALE.	PROD.	SALE.
15"	720	720	720	700
17"	840	730[120K FLAT]	840	730[120K FLAT]
19"	200	170	192	142

- ☐ 长沙 LG 3RD 线 29"/34" 此月开始 P/P. 另 15"/17"CDTX1L 预计明年 5 月量产。
- ☐ 99 年 LG W/W CPT 产销量 15M, 今年预计 19~20M.
- ☐ 对我方质疑 17"订单差, 为何还生产那么多, 支吾以对, 表示係总部决策。

4) ORION:

- ☐ 销售好转, 14"/15"玻壳短缺。新以 Glass Bulb 短缺为最重。7 月销量大增, 且
- ☐ 6 月 17" 除销 EMC/北泰 各 10K 外, 余均销予 AOC. 14"/15"大部分也均销予 AOC. 其起量!
- ☐ 中 15"Mini-neck 约 40-50K/M.
- ☐ 大陆 CDT 合资案目前仍未获得大陆政府核准. 且中方合资对象仍有财务问题待解决。

5) IRICO:

- ☐ 6 月作部分限产, 减量约 10K. 7 月产销量则与 6 月相当. 但库存仍高逾 120K. IRICO 表示市场未见转好, 其客户对其涨价要求均不接受。
- ☐ 与 TSB 合资案预计明年上半年可开始 17"稼动, 厂房基建施工中, 此线将移转 TSB 旧线, TSB 控股将占 60%. 另表示如第一线进展顺利, 则可能再引进 19"/21"CDTx2L.
- ☐ 玻壳部分, FUNNEL 自做, PANEL 则由上海 ASAHI 供应, 预计年底也可自制部分 PANEL. 同时也希望 PHOS 及玻壳可与 CPT 加强合作。

三. 价格 ISSUE:

- ☐ 对 7 月始执行 TOP MANAGEMENT 14"/15"价格调涨决议, PHS/SDD 均表示客户已接受, 而 CPT 表示虽 15"稍有阻力, 但已坚决执行. 相较之下, LG/ORION/IRICO 仍处于观望状态。
- ☐ 另据 SDD 所了解资讯, IRICO/ORION/LG 在市场上仍以低价抢单:

IRICO	RMB612[100K]	长城
	USD61	厦华
ORION	USD60-61	EMC
LG	USD61~62	厦华
	USD61	EMC

ORION 表示其卖予 EMC 管型为 15"GLARE 48K B+D 机种, 因此并不是低卖。
 LG 则不予承认, 并对 SDD 此种做法大为不满. 而 IRICO 则表示并未 OFFER 如此低之价格。

四. 会议结论

- A) 14"/15"调涨价格请各家认真执行. 17"待 TOP MANAGEMENT 决定.
- B) 与会各方均肯定大陆 GLASS MEETING 对稳定 CDT 市场之积极意义, 但目前会议决议往往无法贯彻执行, 为免其流于形式, 要求后续各方给予积极配合.
- C) 为加强对大陆 MONITOR 市场动向把握, 依鱼部长提议, 后续请与会各方提供 3 个月市场 FORECAST. 另 8 月检讨上半年大陆 MONITOR MAKER 产销状况.

五. 下次會議由 SDI 主辦。時間：AUG 11, 地點：天津。

--以上報告-- 呈核

時令以貴司希望此會議持續, 由聯表示希望
所有時令者, 均能有所貢獻(包括張儀此會,
市場情報等), 以免此會議流於形式, 造成少
數人找機取巧(指 2R200 入證之舉)。

職: 陈遵 敬呈
JUL. 12, 2000

陳遵
7/12/00

敬呈 彭總經理

王芳如 鄭如友
副總經理

張儀
代

BMCC 黃先生 FAX: 010-64363162

	Type	Prod	'00.06.Sale			E/stock	Prod	'00.07.Sale			E/stock	Remark
			T'tl	Local.sa	Export.sa			T'tl	Local.sa	Export.sa		
Philips	14"(Local)	101	101	69	32	1	60	61	46	15	0	
	15"(Local)	101	101	98	3	3	60	63	63	0	0	
	15"(Import)		104		104			90		90		
	17"(Import)		122	44	78			90		90		
SDI	14"(Local)	126	130	55	75	0	100	100	40	60	0	
	14"(Import)				0					0		
	15"(Local)	156	153	83	70	7	150	157	95	62	0	
	15"(Import)		210		210			230		230		
CPT	17"(Local)	75	75	45	30	0	50	50	40	10	0	
	17"(Import)		250		250			270		270		
	14"(Local)	170	193	10	183	12	158	160		160	10	
	14"(Import)		160		160			170		170		
Orion	15"(Local)	175	175	50	125	20	158	160		160	18	
	15"(Import)		340		340			360		360		
	17"(Import)		490		490			530		530		
	14"(Import)		38		38			40		40		
BMCC	15"(Import)		105		105	0		100		100	0	
	17"(Import)		65		65	0		50		50	0	
	14"(Local)											
	15"(Local)	71	75	75	0	127	75	80	80	0	122	
LG	14"(Import)		0		0			0		0		
	15"(Import)	0	130		130			120		120		
	17"(Import)	0	210		210			200		200		
Total	14"(Local)	397	424	134	290	13	318	321	86	235	10	
	14"(Import)		198	0	198			210	0	210		
	15"(Local)	503	504	306	198	157	443	460	238	222	140	
	15"(Import)		889	0	889			900	0	900		
	17"(Local)	75	75	45	30	0	50	50	40	10	0	
	17"(Import)		1137	44	1093			1140	0	1140		
	Total	975	3227	529	2698	170	811	3081	364	2717	150	

EXHIBIT 22

[TRANSLATION]

Contact Report

[Handwritten:] Submitted to Vice President Chung [Handwritten:] faxed 3/1

Date: December 31, 2003 in Shenzhen, China

Companies Visited: *Irico* Export Sales Chief *Ms. Yuan Liang*

Content:

1. Irico production line and its production capacity:

Total production capacity has reached 14M in 2004, and more than 15M in 2005, breakdown as follows:

Line	#A	#B	#C	#D	#E	#F	#G	*#H
Size	21FS	21FS	25FS	25PF/29PF	14"	15PF/14"	21PF	21FS
Capa/Year	2.0M	1.8~2M	1.7M	2.0M	14":3.7M/15"PF:0.4M		1.8M	1.8M

Remark: *#H line is one of the two old Hitachi lines newly purchased. One line is expected to start mass production in August 2004 (production capacity 1.8M/year). Approximately 700k of 21FS (thick tube neck) will be produced in 2004 (Note: Presently, Irico's 21FS is thin tube neck). The other line scheduled to be utilized at the end of 2004 is now *Delay* for the schedule is unclear.

2. Description of Irico production & sales:

Actual sales in 2003 almost reached 10.7M, sorted by size as below:							
14"	15"PF	21"FS	21"PF	25"FS	25"PF	29"PF	Total
3,600k	100k+	3,800k	900k+	1,500k	600k	200k	10,700k

Remark: 1) In 2004, the production of small & medium sizes is basically planned in accordance with production capacity. 21"FS production may increase, depending on #H line's output. There will not be a plan to significantly increase volume and sales in 2004 due to the losses sustained by the 25"/29"PF.

2) The export plan for 2004 is approximately 14"x 230k/m (approximately 2.7M, constituting 72% of total production capacity), and approximately 690,000 for 21" (Q1x30k/m, Q2x50k/m, Q3x70k/m, and Q4x80k/m, related to the #H's plan of starting mass production in August).

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

3. Irico said that its profit would exceed RMB 400 million this year. However, 14"/21" would mainly contribute to its profit, instead of 25"/29", meaning *usd*1.0 profit (equipment depreciation already amortized fully) would be made when 14" is sold at *usd*16.0. Apparently, 14" contributed most to the profit. On the other hand, the cost of 21"FS would reach around *usd*31.0~32.0 (without depreciation), which Irico believes will give itself a strong competitive edge.

4. As to the 14" quotation, Irico said, it had noticed that *Thai-CRT* quoted *usd*19.0 to Changhong in July and had, therefore, supplied 14" to Changhong at low prices under its executive's instructions. Later on, Irico signed a contract with *Vestel* in August to supply 14" at *usd*20.0. We believe that Changhong was most likely not telling the truth when it mentioned \$19 because *Thai-CRT* was selling 14" very well and the supply in Southeast Asia was tight in the second half of the year. In Southeast Asia, the selling price had already exceeded \$20. Therefore, they would not have *Offer* \$19 to Changhong. Furthermore, customers in China/Turkey, etc. all said that CPT price quotes are too high and, presently, the price in the Southeast is approximately *usd*21.0. We do hope that while the 14" is making a strong showing of higher profits, Irico, can cultivate an active role in maintaining the market price (Irico is the most aggressive and belligerent and, therefore, the most qualified to stop the price war).

With regards to 21"FS, Irico indicated that it focuses on domestic sales. Due to smaller export volumes, export sales prices were pretty good. However, the price level of LG/Fuzhou and Shenzhen SEG-Hitachi Color Display Devices Co (which mainly focuses on export), Shanghai Evernew, etc. should be lower. For example, Shenzhen SEG-Hitachi's December price was *usd*38.5. We indicated that customers in China mainly use domestic sales-related conditions, such as a 6 month postdated bank draft, factory delivery, etc., to request a much lower price in order to offset related expenses. Thus, it is very difficult for Chunghwa Picture Tube to make a decision on the final price quote. The current *usd*38.5 to a little than 39.0 should be considered reasonable and will not destroy the market. (Note: Our actual price we quote to our major customers in China is between *usd*38.0~39.0, except for the pricing we give to Changhong in Szechuan, which is *usd*37.50).

5. Irico believes that the export-oriented SEG Hitachi, Shanghai Evernew, and Irico should be affected the most by the Chinese export tariff refund. Irico estimated that its costs increased by 2% (when materials costs/labor costs and other expenses are deducted) and the increased color tube price is not sufficient to *Cover* the increased costs. It is difficult to predict whether the increased costs can be absorbed by the upstream materials. Seeing the way upstream material costs are currently on the rise, it is very possible that the color tube factories will be forced to absorb the increased costs themselves.

6. In 2004, Irico *Glass* will expand by adding 2 *Tanks*, primarily for producing 21" *Panel* and a small quantity of 25"/29" *Panel*. Its main goal is to increase its internal supply, improve its competitive edge, and replace Anyang for the supply of 21"FS *panel*.

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

7. In the near future, both parties wish to once more exchange views regarding *CPT* factory production capacities, glass supply/demand, and the *2Q* market situation in China and Southeast Asia.

- End of Report -

Submitted for approval!

[Handwritten note:] 14” *CPTM*’s cost is estimated at 16.4 (excluding depreciation, and including patent royalty). More efforts will be needed.

[Signed by:] Jia-Fang (Jeff) Yue 3/1

[Submitted by:] Employee Shih-Ming (Maxim) Chen
January 2, 2003

[Submitted to:] President Jia-Fang (Jeff) Yue
HQ Assistant Vice President Yang / Assistant Vice President Cheng
Vice President

English words found in the original text are *italicized*.
Translator’s remarks are indicated in brackets [].

接洽報告

日期：2003年12月31日於中國深圳

對象：Irico(彩虹)出口營銷部長 Ms. 梁媛

內容：

1. 彩虹生產線及其產能：

04年總產能約達14M, 05年則達15M以上, 如下：

生產線	#A	#B	#C	#D	#E	#F	#G	*#H
尺寸	21FS	21FS	25FS	25PF/29PF	14"	15PF/14"	21PF	21FS
產能/年	2.0M	1.8~2M	1.7M	2.0M	14":3.7M//15"PF:0.4M		1.8M	1.8M

Remark: *#H線係新購2條日立舊線之一, 其中一線預計04年8月起量產(產能1.8M/年), 04年約可產出21FS(粗管頸)約700k左右(註: 彩虹現有之21FS為細管頸), 另一線原預定2004年底嫁動, 現有Delay, 時程未明確。

2. 彩虹產銷概況：

03年銷售實績約達10.7M各尺寸如下：

14"	15"PF	21"FS	21"PF	25"FS	25"PF	29"PF	Total
3,600k	100k+	3,800k	900k+	1,500k	600k	200k	10,700k

Remark: 1) 2004年在中小尺寸方面基本上依產能規劃, 21"FS可增量視#H線產出而定。而25"/29"PF因屬虧損尺寸故04年暫無大幅增量銷售之規劃。

2) 2004年外銷計劃約為14"x230k/m(約2.7M, 佔總產能之72%); 21"則約為69萬(Q1x30k/m、Q2x50k/m、Q3x70k/m、Q4x80k/m, 與#H計劃8月起量產相關)。

3. 彩虹稱今年利潤約超過人民幣4億元, 但利潤並非來自25"/29", 主要來自14"/21", 表示依其廠內估算14"在售價usd16.0時仍有usd1.0的利潤(設備折舊已攤完), 對利潤的貢獻最大, 而21"FS成本則可做到約usd31.0~32.0左右(未含折舊), 亦自認有相當的競爭實力。

4. 在14"報價方面, 彩虹稱在7月時看到Thai-CRT對長虹報價為usd19.0, 故依其上級指示以低價供應長虹, 其後並於8月以usd20.0與Vestel簽下交易合同。我方表示長虹所稱之\$19應造假成份居多, 因Thai-CRT之14"產銷狀況不錯, 後半年在東南亞供應緊, 在東南亞都賣\$20以上, 應不會對長虹Offer \$19。而中國/土耳其等客戶都說華映報價太高, 且目前東南亞價格約在usd21.0上下水準, 希彩虹能在14"仍有較高利潤的實力支持下, 發揮維護市場價格的角色(彩虹戰力最強故最有資格止戰)。

而在21"FS方面, 彩虹表示其以內銷為主, 外銷價因量少故也可有不錯的售價, 但LG/福地及以外銷為主的賽格日立、上海永新等的報價水準應較低, 例如賽格日立12月價格為usd38.5。我方表示中國客戶都以內銷的相關條件, 如6個月承兌匯票及到廠交貨等, 要求給與更低價格以轉嫁相關費用, 故華映在報價上非常難以拿捏, 但以現在約usd38.5~39.點多應屬合理, 不會造成市場的破壞。(註: 我方對中國客戶實際報價除地處四川的長虹為usd37.50, 主要客戶約在usd38.0~39.0之間)。

5. 就中國外銷退稅問題, 彩虹認為受影響較大的應屬以外銷為主的賽格日立、上海永新及彩虹本身, 彩虹估算其本身成本約增加2%(扣除外購材/人工成本及費用比重), 但認為難以彩管漲價來Cover, 至於是否可往上游材料推則難以論斷, 以現在上游材料喊漲的態勢來看, 很可能彩管廠不得不自行吸收。

6. 彩虹Glass將在04年擴增2個Tanks, 主要生產21"Panel及少量25"/29"Panel, 主要目的在增加內部供應提高競爭力及取代安陽21"FS panel的供應。

7. 雙方希近期再就中國及東南亞地區CPT廠產能、玻殼供需及2Q市況交換意見。

以上報告

14" CPTM 的估計成本為16.4 (不含折舊, 含專利金), 故向還要再努力。

呈核!

梁總經理
收 楊協理/鄭協理
劉總經理

呈核!

職陳時銘

2003年1月2日

EXHIBIT 23

[TRANSLATION]

[Handwritten:] Yu

For Submission

Subject: Internal sales price and market situation of 15" *CDT*

Description:

1. *IRICO* current major customers for 15" *CDT* are Rainbow Huangqi Electronic Information Ltd., Weihai Daewoo Electronics Co., Beijing Founder Electronics Co. and China Great Wall Computer Group Co., etc.; Nanjing Huafei Color Display System Co. Ltd./ Samsung Electronics Co. also *share* the 15" *CDT* orders from Weihai Daewoo Electronics Co./ China Great Wall Computer Group Co.
2. Since the current customers of *IRICO* are relatively weak in endowment, products are not as competitive as those of Huafei and Sansung and their product's range of specifications is not complete. (Now they can only *M/P* 64 *Khz Model*. 48*Khz* is only in mass trial.) This makes *IRICO* depend on low price strategy to *share* the orders in the market. With the orders from its major customer Rainbow Huangqi not doing well and with Weihai Daewoo's order *shared* by Huafei, its 15" *CDT* showed inventory situation (25~30*K/M*) that is incompatible with the flourishing market in October and November.
3. Weihai Daewoo has also indicated that it has been sales price *CD* with Philips. The matter has been discussed with Director Dong Liu of Huafei who said that it was a matter of discussion between the headquarters of both sides. It has not been confirmed. He also hinted that Huafei has power not to *flw* with the price negotiated by the headquarters.
4. *IRICO*'s low price competition threatened the orders from China Great Wall and Samsung needs to defend its existing market share. A price dispute war has broken between the two sides. The only thing that can be done is to ask Samsung/Huafei at the *CDT* meeting to give *IRICO* a survival space in order to avoid a price war that would affect other makers.
5. Currently the sale price of *IRICO*'s 15" *CDT* using 48*Khz/AG.ITC* tube is about *USD* 62~63/ *RMB* 670~680.

-End of report-

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

[Handwritten:]

Submitted to Senior Manager

1. According to *SDD/PHS*, IRICO's 15" tube is normally sold at low price for the more advance models, making its difference with market price as high as @USD 5-.
2. It is an undisputable fact that *SDD/PHS* control of its factory's business in China Mainland is not as thorough as *CPT* (especially Huafei which seems to have very strong independence). Currently the supply/demand is tight; we can still hold the price. If the demand turns weak, using the low price of IRICO as an excuse, cut price competition can recurred in China Mainland.

[Signed:] Wei-Lie Yu 11/12'99

Respectfully submitted to Senior Manager Cheng/ Director

[Initialed:] Jing-Song (Jason) Lu 11/12'99

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

呈



主旨：15" CDT 内销售价市况
说明：

1. IRICO 现 15" CDT 主要客户为彩虹皇旗、威海大字、北大方正、长城电子等，南京华飞/三星电子亦分别 share 威海大字/长城电子 15" CDT 订单。
2. 由于 IRICO 现有客户 体质较弱、产品较华飞及三星较不具竞争力、产品规格亦不齐全(现仅可 M/P 64Khz Model, 48Khz Model 仅在量试中)，致使 IRICO 仅能依靠低价策略 share 市场订单。在其主要客户彩虹皇旗订单不佳、威海大字订单受到华飞 share 下，10~11 月 15" CDT 出现与畅旺的市场不相适应的库存状况(25~30K/M)。
3. 威海大字亦曾反映其 与飞利浦已在进行售价 CD 中，经洽华飞刘东处长，其表示系双方总部在议之事，仍未得到确认，且暗示华飞亦有权力可不 flw 总部所议价格。
4. 受 IRICO 低价竞争 威胁长城电子订单，三星为确保既有市场份额，双方发生价格争议战。惟在 CDT 会议中请三星/华飞能给予彩虹生存空间，以避免价格战波及它户。
5. 现彩虹 15" CDT 以 48Khz/AG.ITC 管计售价约 USD62~63/RMB670~680。

~以上报告~

呈 组 理

1. 据 SDD/DHS 表示，彩虹 15" 子一般保高階低價，以致对行业價格差距亦较大达 @40%。

2. SDD/DHS 对皇旗及威海大字有效描述，无法如明般完全地貫徹，是不爭的事實(因皇旗似乎自主性極強)。目前非常學價格由皇旗，其是常求轉弱，以彩虹低價為由，前價競爭之情況，極可詬及大害重造。

前呈 鄭代理 外長

余伟烈 11/10/22
12/19/22

EXHIBIT 24

[TRANSLATION]

[Handwritten:]

Zhong/ ~~Yu~~ / various *SALES* Ji file *CDT* competing brand → Tony *CPTF* 1/2

CPTM [illegible]

Various officers → also

Ji Ivy Allan Zun

Visitation Report

Date: February 15, 2001

Customers: IRICO Executive Vice President Jian Zhu, Senior Manager Yuan Liang, Jiansheng Xi (President Sa's mother passed away and did not attend)

Contact: Wen-Chun (Tony) Cheng

Content:

1. IRICO last year sold 8.36M picture tubes (14": 3.22M; 21": 2.70M, 25": 1.54M, CDT: 0.9M [Underlined by hand]). Its inventory at the end of the year was 245k (14": 49k, 25": 108k, *CDT*: 76k, but the actual *CDT* inventory should be more than 200k). It was estimated that this year's sale quantity would be 8.6M (14" 3.2M, 21" 1.5M, 25" 2.0M, 29" 0.4M, CDT: 1.5M [Underlined by hand]). In January, the 14" export sales to Turkey had not yet been shipped and the overall sales were poor. The inventory quantity climbed to more than 400k. The situation in February is even worse. Inventory pressure will be very great. That was why they would like to discuss with CPT to set reasonable prices to stimulate the market.
2. For the 3.2M of 14" this year, it was planned to sell to *Vestel*: 1.3M, *Thomson* Thailand: 250k, also: domestic sales 800k, (now rmb 320, BMCC rmb 350 [Underlined by hand]), external sales turned export 1.0M (such as Ganghua 250k, China Great Wall 300k, Konka 350k, Skyworth 100k). The external quoted price was based on *Vestel*'s price (currently \$29.8 *fob* Shanghai), quotation to *Thomson* rose from last year's \$30.7 (*c&f* Bangkok) to the current price of \$31, starting from this month. But, recently *Thomson* sternly requested a price cut. IRICO decided to return to last year's level of \$30.7 from March onward. Responding to CPT's query on *Aiwa* and *Funai*, they said that their products were not suitable at all. At the present stage, they were responding with the price of \$31~32 and would not be lower than the price level of *Vestel* and *Thomson*. They absolutely had no intention to compete with CPT. (They were very thankful for CPT appropriately providing much information on the market situation so that IRICO last year was able to raise prices without worry and have better profit. On one hand products were not suitable and on the other hand the customers under question would not really buy. IRICO would not make trouble for CPT.)

English words found in the original text are *italicized*.

Translator's remarks are indicated in brackets [].

3. Both sides reviewed *Vestel's* trade in Europe. Based on *Vestel's* original plan of 2.5M for 14", the distribution of purchase would be: IRICO 1300k, CPT 400k, *Philips* 400k, *Ekranas* 300k, *Orion* 100k. Now, other than *Ekranas's* sale price being close to IRICO's \$36.1, *PH's* current price is \$38.7, CPT's \$38.5 (actually \$37.5), *Orion's* \$38. Since *Vestel's* business has been poor and it has not placed any order to any makers in the past two months, it was agreed to maintain the price differential of \$2 until after Europe's *GSM* is decided on February 22nd. Then IRICO would synchronize with the action to lower prices.
4. With 14" BMCC better than IRICO in grade and its price would be \$1~\$2 higher. Recently it was heard that BMCC has lowered its sale price to \$30.5 and to Toshiba's \$29. This was a relatively big challenge to IRICO. Current domestic sales are about *rmb* 320~340.
5. The sale situation of 21" in China Mainland has not been too bad and inventory is not high. They are mainly for internal sales and for external sales of Ganghua/Konka/Skyworth (last year it was 120k and this year's target was 150k). Current price has dropped from \$50 to \$48~49 (*fob* Shanghai). Since they are *mini* tubes, even if they would like to sell them to Europe, they are not suitable to *Vestel*. IRICO admitted that it has sent samples to *Thomson*. I indicated that the quantity of *Thomson's* 21" was very small; it was not worthwhile to spend too much effort to develop sales.
6. Business of 25" has been very poor. Internal sale price does not reach *rmb* 750. As for 29", samples were made but could not be mass produced.
7. Last year because of quality problems of 15" *CDT*, IRICO lost a lot of sale opportunities. At the end of last year, 15" market decreased. IRICO admitted that sales should not have reached the \$900,000 reported. Inventory was also considerable. Sales target includes *AOC* 20k/m, Weihai Daewoo and _____. Last year, Huangqi was unable to pay U\$800,000. Based on domestic price, it was able to get some *rmb* instead but was unable to balance the external sales account. Recently Xingfu Li again asked IRICO to invest so as to continue the original deal but it was rejected by IRICO.
8. As for its operation, IRICO vertically integrated the 14"/21". No matter how poor the business is, and how bad the price is, it will fight to the very end and provide work for every staff in the plant. Most of the material for *CDT* and 25"/29" needs to be bought from outside. It is less competitive than CPT. As for its current price, it is already subsidizing almost \$50 each. If they cannot sell, they will produce as little as possible and would not hold up the effort [Underlined by hand].

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T-599 P02/02

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

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English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

CONFIDENTIAL – GRAND JURY MATERIAL

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9. IRICO has introduced technology from Russia two years ago to set up a 44" *PDP* production line. It has invested *rmb* 150 million yuan but still cannot mass produce even now. Even if it can mass produce, there is no viable market. Credibility is another problem. I think IRICO will eventually give up its *PDP* business.
10. Since CPT has switched the focus of its picture tube business to China Mainland, based on the idea of localization of supply, IRICO hoped that it can sell to CPT at the most preferred price and hoped to learn from CPT's production experience. It is now applying for permission to visit Taiwan and hopes to meet with Assistant Manager Wang from the Purchase Department and with Vice President Chen.
11. The discussion with Toshiba to transfer equipment to joint venture has already been terminated.

End of report

Respectfully submitted

[Initialed:] Chih-Chun (C.C.) Liu 12/19 [sic]

[Initialed:] Chieng-Yuan (C.Y.) Lin 12/19 [sic]

[Signed:] Employee Wen-Chun (Tony) Cheng [Illegible]

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

[Page Intentionally Omitted]

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

CONFIDENTIAL – GRAND JURY MATERIAL

CHU00031104E

接洽報告

日期:	90年2月15日
客戶:	彩虹電子 竺簡常務副總, 梁捷經理, 吳建生。(沙總母喪, 未參加)
接洽:	鄭文俊

內容:

1. 彩虹去年銷售映管 8.36M (14": 3.22M, 21": 2.70M, 25": 1.54M, CDT: 0.9M), 年底庫存 245k (14": 49k, 25": 108k, CDT: 76k, 但實際 CDT 庫存應在 200k 以上)。預定今年銷售量 8.6M (14" 3.2M, 21" 1.5M, 25" 2.0M, 29" 0.4M, CDT 1.5M), 元月份 14" 外銷土耳其未出貨, 整體銷售又差, 庫存量攀升至 400k 以上。二月情況更差, 庫存壓力將極大。故希望能與華映商量合理訂價以刺激市場。
2. 今年 14" 3.2M 計劃售 Vestel: 1.3M, Thomson 泰國: 250k, 另有: 內銷 800k (現 rmb 320, 北松 rmb 350), 外銷轉出口 1.0M (如港華 250k、長城 300k、康佳 350k、創維 100k)。對外報價以 Vestel 價格 (現 \$29.8 fob 上海) 為基準, 對 Thomson 報價由去年 \$30.7 (c&f 曼谷) 自本月漲至現價 \$31, 但最近被 Thomson 嚴厲要求降價, 故打算自三月起將降回去年 \$30.7 的水準。對於華映質疑的 Aiwa, Funai, 表示其產品根本不合用, 現階段以 \$31~32 回應, 不會低於 Vestel 跟 Thomson 的價位, 也絕對無意跟華映搶生意。(表示非常感謝華映適度提供許多市場狀況, 得以讓彩虹在去年放心漲價有較好之利潤, 一方面產品不合用, 二來所詢的客戶也不是真的會買, 不會跟華映搗蛋)。
3. 雙方檢討在歐洲 Vestel 之交易, 如依 Vestel 原先之規劃 14" 2.5M, 則採購分配為: 彩虹 1300k, 中華 400k, Philips 400k, Ekranas 300k, Orion 100k。現除了 Ekranas 售價接近彩虹的 \$36.1 之外, PH 現價 \$38.7, 中華 \$38.5 (實際是 \$37.5), Orion \$38, 鑒於 Vestel 生意差, 已兩個月未向任何廠商下單訂購, 協議以維持 \$2 的價差, 待 2/22 歐洲 GSM 定案後, 彩虹即同步採取調降行動。
4. 14" 北松在品位形象較彩虹佳, 售價會高 \$1~2 間, 近日有聽聞北松已調降售價至 \$30.5 及東芝的 \$29, 對於彩虹是比較大的挑戰, 現內銷價約 rmb 320~340。
5. 21" 在大陸的銷售狀況還不錯, 庫存不算高, 都以內銷及港華/康佳/創維之外銷 (去年 120k, 今年目標 150k) 為主, 現價由 \$50 跌至 \$48~49 (fob 上海), 因係 mini 管, 想銷歐洲 Vestel 也不合用, 承認有送樣品給 Thomson, 職表示 Thomson 21" 量很小, 不值得大費周章的拓銷。
6. 25" 生意很差, 內銷價不到 rmb 750。29" 已做出樣品, 但一直沒有辦法量產化。
7. 15" CDT 去年初的品質問題讓彩虹喪失很多銷售機會, 而去年底 15" 市場下跌, 承認銷售應不到所提報的 90 萬, 庫存也不少, 銷售對象有 AOC 20k/m, 威海大字及 ____。去年被皇旗倒帳 US\$80 萬, 以內銷價計算拿了些人民幣回來, 但仍沖不了外銷的帳。最近李慶福又要彩虹出資, 將原有的生意繼續做下來, 但彩虹已拒絕。
8. 就經營而言, 彩虹垂直整合在 14"/21", 不管生意再差、價格再爛都會戰到底, 務必給全廠員工有工作。而 CDT 及 25/29" 大部份材料要外購, 競爭力還不見得贏得了華映, 現價已貼近 \$50, 如果還賣不出去, 就會儘量少做, 不會硬撐。

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9. 兩年前自俄羅斯引進技術設立一條 44" PDP 生產線，投資 rmb 1.5 億元，但是到現在也還沒有辦法量產，且即使量產了後也沒有可行的市場，信賴性也是問題。認為彩虹終究還是會放棄 PDP 的事業。
10. 由於華映將映管事業重心移轉到大陸，在當地化供應的理念上，彩虹希望能以最優惠的價格給華映，希望能跟華映學習生產經驗。現辦理手續來台訪問，亦希望能夠與採購王協理與陳副總見面洽商。
11. 與東芝談設備移轉與合資案已中止。

以上報告

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NO.	COM	PAGES	FILE	DURATION	X/R	IDENTIFICATION	DATE	TIME	DIAGNOSTIC
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EXHIBIT 25

TOP-5 CDT CUSTOMERS¹ (BY VOLUME OF NORTH AMERICA SHIPMENTS)		
Customer	Volume	Share of Shipments
IBM	738,305	32.7%
ACER	609,358	27.0%
NEC	167,046	7.4%
CERONIX INC	145,108	6.4%
NOKIA	122,531	5.4%
TOTAL 1995 - 2007	1,782,348	78.9%

Source: Johnson Backup Data (master_crt_sales_data_w_parent_names.dta)

Notes: ¹ Customers is defined as members of Plaintiffs' purported class and excludes shipments to any entities or affiliates of Irico's alleged Co-Conspirators.

TOP-5 CPT CUSTOMERS¹ (BY VOLUME OF NORTH AMERICA SHIPMENTS)		
Customer	Volume	Share of Shipments
SHARP	13,707,185	67.8%
KANEMATSU	2,293,806	11.3%
FIVE RIVERS ELECTRONIC INNOVATIONS	1,145,399	5.7%
FUNAI	764,880	3.8%
DEMDA	566,309	2.8%
TOTAL 1995 - 2007	18,477,579	91.4%

Source: Johnson Backup Data (master_crt_sales_data_w_parent_names.dta)

Notes: ¹ Customers is defined as members of Plaintiffs' purported class and excludes shipments to any entities or affiliates of Irco's alleged Co-Conspirators.

EXHIBIT 26

[TRANSLATION]

Marketing Contact Report

Date: August 20, 2003

Attending Companies: *Mr. Rong-Guo Gao*, President of *Irigo* Export & Import Co.
Ms. Yuan Liang, Export Sales Dept. Manager

CPT: Assistant Vice President Sheng-Jen (S.J.) Yang, Shih-Ming
(Maxim) Chen

Content:

1. Presently, Irigo has 7 production lines, including 14''*2, 21''FS*2, 15''PF/21''PF*1, 25''FS/25''PF*1 and 29''PF*1. 2003 planned production capacity is 10.7M, including 14''*3.62M, 21''FS*3.8M, 21''PF*0.6M, 25''FS*1.55M, 25''PF*0.5M and 29''PF*0.6M. Additionally, planned production volume for this year's new product 15''PF is 500,000~600,000, however, market demand does not seem to be growing and therefore, the accumulated production volume till now is approximately 100K.
2. President Gao stressed that on the one hand, Irigo is a government-owned enterprise and must take protection of its employees' livelihood as its top priority, but on the other hand, Irigo is not developing new products, such as *LCD* and *PDP*. As a result, Irigo must stick to *CPT* even if it may be a road of no return, regardless of profit or loss.
3. Irigo will strive to upgrade its production efficiency for its 14'' production line in the second half of year so as to increase its production capacity (volume) from 3.6M this year to 5.0M next year, thereby increasing overall production capacity from 10.7M this year up to 12M next year. In addition, Irigo signed a purchase contract with Hitachi to procure two 21'' production lines (only approximately over USD 1 million), which is scheduled to start production at the end of 2004, increasing the overall production capacity for *CPT* to 15M in 2005.
4. With equipment depreciation fully amortized and all materials produced in-house (Irigo has its own factories to produce glass/ electron guns/ fluorescent powder/*Mask/DY* and other materials), its cost structure is highly competitive. In spite of the fierce price competition in the market, Irigo still has a considerably high profit level for the first half of this year. For example, with no equipment depreciation and if the cost of a self-made glass bulb is less than *US\$6*, the total cost for 14'' is merely around *USD16*.

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

5. In Q2, due to influences such as those of *SARS*, various China *TV* makers' abilities to meet their projections were generally not ideal. So, with the coming of the peak season, all *TV* makers seek to make up for the losses of the first half of the year while increasing their market share, thus, although export orders decreased in November, the domestic market should be able to maintain relatively strong demand through the Chinese New Year festival next year. Overall, *CPT* and *TV* inventories are at reasonable levels, so *CPT* demand and supply should be able to be maintained in relative equilibrium. In China, when *TV* makers buy tubes to produce models for export, they generally have tariff refund issues. Under such circumstances, even though they have the benefit of 6-month payment when they purchase domestically, we should still be able to maintain a stable opportunity when we *Share* their export orders.
6. Price competition is fierce on the 14" front. Irico claimed that it could still sell 14" at *usd21~21.5*, yet admitted that it has dropped its price to *usd20.5* for some customers, such as *Skyworth*. Additionally, while *Phs* (Brazil) was competing with India's *CRT* makers, *Vestel* asked for *usd18.9 (ITC)*, causing Irico's orders to drop dramatically from August.

- End of Report -

Respectfully submitted:

President Jia-Fang (Jeff) Yue

HQ Assistant Vice President Sheng-Jen (S.J.) Yang / Assistant Vice President
Cheng
Vice President

Submitted by: Employee, Shih-Ming (Maxim) Chen
2003/08/25

English words found in the original text are *italicized*.
Translator's remarks are indicated in brackets [].

2002 CRT Quality Performance Report For Thomson-Thailand

Unit : ppm													
Model	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average
Usage (pc	32434	32927	61367	69264	46584								242576
Reject (p	24	27	37	41	39								168
14" pp	739.96	820.00	602.93	591.94	837.20								692.57
Usage (pc	5089	4308	3869	5367	11647								30280
Reject (p	9	18	9	20	19								75
20" pp	1768.52	4178.27	2326.18	3726.48	1631.32								2476.88
Usage (pc	1814	718	1208	1000	648								5388
Reject (p	8	4	4	5	1								22
21" pp	4410.14	5571.03	3311.26	5000.00	1543.21								4083.15

All mode	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average
Usage (pc	39337	37953	66444	75631	58879								278244
Reject (p	41	49	50	66	59								265
ppm	1042.28	1291.07	752.51	872.66	1002.06								952.40

English words found in the original text are *italicized*.
 Translator's remarks are indicated in brackets [].

市場接洽報告

日期：2003 年 8 月 20 日

對象：彩虹〔Irico〕進出口公司總經理 Mr.高榮國、出口營銷部長 Ms.梁媛

華映：楊協理、陳時銘

內容：

1. 彩虹現共有生產線 7 條，包括 14"2、21"FS*2、15"PF/21"PF*1、25"FS/25"PF*1 及 29"PF*1。2003 年度計劃量為 10.7M，其中包括 14"3.62M、21"FS*3.8M、21"PF*0.6M、25"FS*1.55M、25"PF*0.5M 及 29"PF*0.6M。另今年度新產品 15"PF 雖計劃生產 50~60 萬，但市場不見成長，至今累計產量約 100K。
2. 高總經理強調彩虹一方面因其為國營企業而須以保障員工生計為優先考量，另一方面體認其並無如 LCD、PDP 等新產品發展，故在 CPT 領域即使為不歸路，也只有不論盈虧力拼到底。
3. 彩虹下半年將致力於 14"生產線之效能提升，使其明年產能(量)由今年之 3.6M 增加至 5.0M，使明年產能由 10.7M up 到 12M；另已與日立簽下兩條 21"線之買賣契約(僅約 100 多萬美元)，計劃 2004 年底投產，使 2005 年總 CPT 產能增加至 15M。
4. 由於設備折舊幾已攤提完畢，加上相關材料幾乎均自製(本身有玻璃/電子鎗/螢光粉/Mask/DY 及其他材料廠)，使其有具競爭力之成本結構，儘管市場價格競爭激烈，今年上半年仍有相當之利潤。例如其 14"在無設備折舊及如自製玻殼成本在 US\$6 以下，總成本只約 USD16 左右。
5. 由於第 2 季在 SARS 等因素影響下，上半年中國各 TV 廠之預算達成度普遍不理想，隨著旺季之到來，在各 TV 廠想彌補上半年數量及搶佔市場之下，儘管外銷單在 11 月後衰退，但內銷市場到明年春節前應可維持較強之需求。整體而言，CPT 及 TV 庫存均處於合理水平，CPT 供需應可維持較平衡之狀況。而在中國 TV 廠以購管生產外銷機種時，普遍有退稅問題的情況下，儘管其在國內採購有 6 個月付款之利益，我方 Share 其外銷訂單應可維持穩定之機會。
6. 價格競爭在 14"方面尤為激烈，彩虹雖稱仍可以 usd21~21.5 銷售，但亦承認對某些客戶如 Skyworth 等已降至 usd20.5，另在 Phs(巴西)及印度 CRT 廠之競爭下，遭逢 Vestel 以 usd18.9(ITC)要價而自 8 月起訂單銳減。

以上

敬呈 樂總經理

HQ 楊協理/鄭協理

副總經理

職 陳時銘敬呈
2003/08/25

2002 CRT Quality Performance Report For Thomson-Thailand

Unit : PPM

Model	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average
Usage (pc)	32434	32927	61367	69264	46584								242576
Reject (p	24	27	37	41	39								168
14" pp	739.96	820.00	602.93	591.94	837.20								692.57
Usage (pc)	5089	4308	3869	5367	11647								30280
Reject (p	9	18	9	20	19								75
20" pp	1768.52	4178.27	2326.18	3726.48	1631.32								2476.88
Usage (pc)	1814	718	1208	1000	648								5388
Reject (p	8	4	4	5	1								22
21" pp	4410.14	5571.03	3311.26	5000.00	1543.21								4083.15

All mode	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Average
Usage (pc)	39337	37953	66444	75631	58879								278244
Reject (p	41	49	50	66	59								265
ppm	1042.28	1291.07	752.51	872.66	1002.06								952.40

EXHIBIT 27

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION**

**CONFIDENTIAL – TO BE FILED UNDER SEAL
SUBJECT TO PROTECTIVE ORDER**

**IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION**

**Master File No. CV-07-5944-SC
MDL No. 1917**

THIS DOCUMENT RELATES TO:

**Date: December 12, 2014
Time: 10:00 a.m.
Judge: The Honorable Samuel Conti
Ct rm: 1, 17th Floor**

**Crago, d/b/a Dash Computers, Inc., et al. v.
Mitsubishi Electric Corporation, et al., Case
No. 14-CV-2058 SC**

EXPERT REPORT OF JEFFREY J. LEITZINGER, PH.D.

NOVEMBER 6, 2014

**UNREDACTED VERSION OF DOCUMENT
SOUGHT TO BE SEALED**

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I. Experience and Qualifications

1. My name is Jeffrey J. Leitzinger. I am an economist and a Managing Director at Econ One Research, Inc., an economic research and consulting firm with offices in Los Angeles, Sacramento, Berkeley, Houston, Washington D.C., and New Delhi, India. I have both master and doctoral degrees in economics from the University of California at Los Angeles and a bachelor's degree in economics from Santa Clara University. During the 34 years of my professional career, I have worked extensively on the analysis of markets and the assessment of allegations of anti-competitive conduct, including a number of antitrust conspiracy cases. I have testified on numerous occasions as an expert economist in State and Federal courts. A more detailed summary of my training, past experience and prior testimony is shown in **Exhibit 1**.
2. In the course of preparing this report, my staff and I have reviewed discovery documents, depositions and publicly available materials (which are listed in **Exhibit 2**). Econ One is being compensated for the time I spend on this matter at my normal and customary rate of \$705 per hour. Econ One is also being compensated for time spent by research staff on this project at their normal and customary hourly rates.

II. Assignment and Summary of Conclusions

3. Plaintiffs allege that the defendants in the case ("Defendants") and their co-conspirators¹ engaged in a price-fixing conspiracy for the purpose of fixing, raising, maintaining and/or stabilizing prices of cathode ray tubes ("CRTs") and that CRT products (CRTs and finished products incorporating CRTs) were sold at elevated prices in the United States between March 1, 1995 and November 25, 2007 (the "Class Period"). Plaintiffs are direct purchasers of CRT products from the

¹ Defendants are Technicolor SA (f/k/a Thomson SA) and Technicolor USA, Inc. (f/k/a Thomson Consumer Electronics, Inc.) (together, "Thomson") and Mitsubishi Electric Corp.; Mitsubishi Digital Electronics America, Inc.; and Mitsubishi Electric & Electronics, USA, Inc. (together, "Mitsubishi"). Plaintiffs also allege that (1) Chunghwa Entities; (2) Orion Entities; (3) Hitachi Entities; (4) Irico Entities; (5) LG Electronics Entities; (6) LG Philips Display; (7) Panasonic Entities; (8) Philips Entities; (9) Samsung Entities; (10) Thai-CRT; (11) Toshiba Entities; (12) MT Picture Display Co., Ltd.; and (14) Beijing-Matsushita Color CRT Company, Ltd. were members of the alleged conspiracy. See Direct Purchaser Plaintiffs' Complaint Against Mitsubishi and Thomson, May 5, 2014 ("Complaint") and Appendix A.

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Defendants and co-conspirators. Plaintiffs' counsel propose a class of purchasers as follows:

All persons and entities who, between March 1, 1995 and November 25, 2007, directly purchased a CRT Product² in the United States from any defendant or any subsidiary or affiliate thereof, or any co-conspirator or any subsidiary or affiliate thereof. Excluded from the Class are Defendants, their parent companies, subsidiaries and affiliates, any co-conspirators, all governmental entities, and any judges or justices assigned to hear any aspect of this action.

4. I previously submitted two related reports in this matter.³ I have been asked by plaintiffs' counsel to update the opinions in those reports based on information that has come to light in the interim and present my opinions regarding the widespread impact of the alleged conspiracy on proposed Class Members.
5. The conspiracy in this case is alleged to have begun in 1995 and continued operating (at least in some fashion) through the commencement of the Department of Justice investigation of the industry in November 2007. According to the Complaint, Defendants and co-conspirators:
 - i. Established targets for minimum prices of various CRTs defined by size and application, as well as elevated market price levels for CRTs overall;
 - ii. Agreed to restrain output and capacity;
 - iii. Discussed and agreed upon prices as to specific customers; and
 - iv. Exchanged information on pricing, shipments, capacity, output, and production line status for CRTs.

² CRT products include CRTs, CRT TVs, and CRT monitors.

³ Corrected Expert Report of Jeffrey J. Leitzinger, August 1, 2013 ("Leitzinger Class Report"); and Reply Expert Report of Jeffrey J. Leitzinger, November 9, 2013 ("Leitzinger Reply Class Report").

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6. In the course of my work on this assignment, my staff and I have reviewed extensive data, documents and testimony developed through the course of discovery in this case. A list of the materials we have reviewed is included as Exhibit 2. Based upon my review and analysis of these materials, I have concluded that there is evidence common to members of the proposed Class that is sufficient to prove widespread impact. This evidence involves:
- The broad extent of communication and cooperative activities within the alleged conspiracy;
 - Activities that would have assisted the alleged conspiracy in constraining output of CRTs;
 - The alleged conspiracy's control over the vast majority of sales;
 - Regression analysis showing prices of CRTs to be largely determined by factors that are common to Class Members;
 - Jointly determined "Target Prices" for CRTs representing the vast majority of total sales;
 - Structural elements in CRT pricing that tended to link prices for CRTs of different types and sizes;
 - Regression analysis showing that "Target Prices" established through the alleged conspiracy had a demonstrable effect on actual prices paid; and
 - The existence of other market characteristics which would be expected as an economic matter to cause the effects of conspiratorial behavior to be felt broadly across customers.
7. I set forth the basis for these conclusions below. I understand that discovery has not yet been completed and that further evidence might emerge that is relevant to my analysis. I intend to consider additional evidence as it develops and may revise my conclusions or supplement their evidentiary basis as warranted by that evidence.

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III. CRT Industry Background

8. CRTs were the dominant technology used in televisions and computer monitors, automated teller machines, gaming devices, measuring instruments and electronic medical devices (collectively “display products”) from the 1950s into the 2000s.⁴ Since then, liquid crystal displays (“LCDs” or “TFT-LCDs”) have supplanted CRTs in most display applications.⁵

A. Product Description

9. A cathode ray tube (“CRT”) is a funnel-shaped glass device which translates electronic video signals into visual images. The main components of a CRT are an electron gun assembly, a deflection system and a phosphor-coated screen, all encased in a large vacuum-filled glass bulb.⁶ The electron gun, placed at the rear end of the bulb, consists of a negatively charged cathode which emits electrons when heated and a positively charged anode which directs the electrons into a narrow beam and accelerates them towards the screen.⁷ The electron beam passes through a deflection

⁴ For a brief history of CRT technology see EPA, “Computer Display Industry and Technology Profile,” December 1998, 1 and 3-4, http://www.epa.gov/dfe/pubs/comp-dic/tech_reports/index.htm and Industry and U.S. International Trade Commission, “Industry & Trade Summary: Television Picture Tubes and Other Cathode-Ray Tubes,” Publication 2877, May 1995, 1 and 11, http://www.usitc.gov/publications/332/working_papers/pub2877.pdf. See also PHLP-CRT-051982-PHLP-CRT-052085 at 052057.

⁵ Paul Sakuma, “Flat panels drive old TVs from market,” *USA Today*, October 22, 2006, http://www.usatoday.com/tech/products/gear/2006-10-22-crt-demise_x.htm; Hitachi, “Hitachi’s Flat-panel TV Business Strategy,” April 18, 2007, 7 and 10, <http://www.hitachi.com/IR-e/library/presentation/070418/070418.pdf>; PR Newswire, “Stanford Resources Experts Forecast Major Shifts in CRT monitor Marketplace,” New York, October 2, 2001, <http://www.prnewswire.com/news-releases/stanford-resources-expert-forecasts-major-shifts-in-crt-monitor-marketplace-73466017.html>.

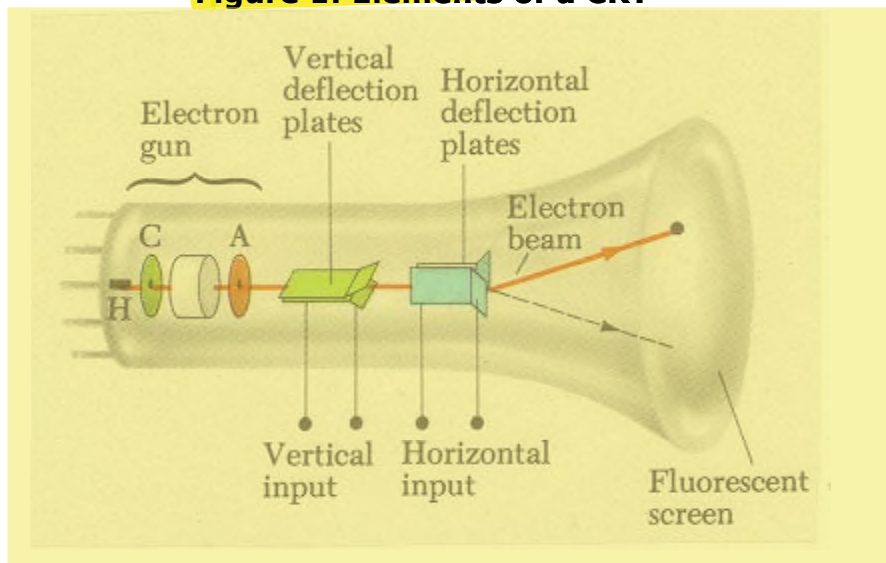
⁶ For detailed descriptions and a schematic diagram of the design and construction of CRTs see U.S. International Trade Commission, “Industry & Trade Summary: Television Picture Tubes and other Cathode-Ray Tubes,” May 1995, 1-2, http://www.usitc.gov/publications/332/working_papers/pub2877.pdf and EPA, “Computer Display Industry and Technology Profile,” December 1998, 12-13, http://www.epa.gov/dfe/pubs/comp-dic/tech_reports/index.htm.

⁷ Polychromatic CRT tubes contain three electron guns, one for each color - red, green and blue; unlike monochromatic tubes that contain only one electron gun and produce a black-and-white image. See Fleischmann, Mark, “The Big Picture,” *Popular Science*, November 1994, 84 and 92. For an overview of CRT technology, see Laurel M. Sheppard and C. Cavette, “Cathode-Ray Tube,” <http://www.madehow.com/Volume-2/Cathode-Ray-Tube.html#b>.

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system that aims it vertically and horizontally, towards the right spot on the screen.⁸ The screen is coated with phosphors which illuminate when the electron beam strikes. Images are produced as the incoming video signal generates electron beams of varying strengths that rapidly scan the screen up and down and back and forth, creating illumination patterns that the human eye recognizes as images.

Figure 1: Elements of a CRT⁹



10. This basic design of the CRT remained the same for over half a century, though technological progress and refinement of materials allowed the quality to improve over time. These improvements included reduced ‘warm up’ time and ‘flicker’, sharper images and bigger, flatter screens with minimum curvature. High definition televisions with scanning rates more than twice those of conventional systems became possible with improved electron gun design as well as new glass materials. Recent improvements include ‘Superslim’ and ‘Ultraslim’ CRTs (introduced by LG Electronics and Samsung, respectively).¹⁰

⁸ See PHLP-CRT-051982- PHLP-CRT-052085 at 052057.

⁹ Quarkology.com, “9.4.A- Cathode Rays,” <http://www.quarkology.com/12-physics/94-ideas-implementation/94A-cathode-rays.html>.

¹⁰ CDRinfo, “LG Super-slim CRT set to change entry-level television market,” <http://lux.cdrinfo.com/Sections/News/Details.aspx?NewsId=13874>; PR Newswire, “LG Philips Displays Brings SuperSlim Technology to the U.S. Market,” January 6, 2005, <http://www.prnewswire.com/news-releases/lgphilips-displays-brings-superslim-technology-to-the-us-market-53883862.html>; Samsung,

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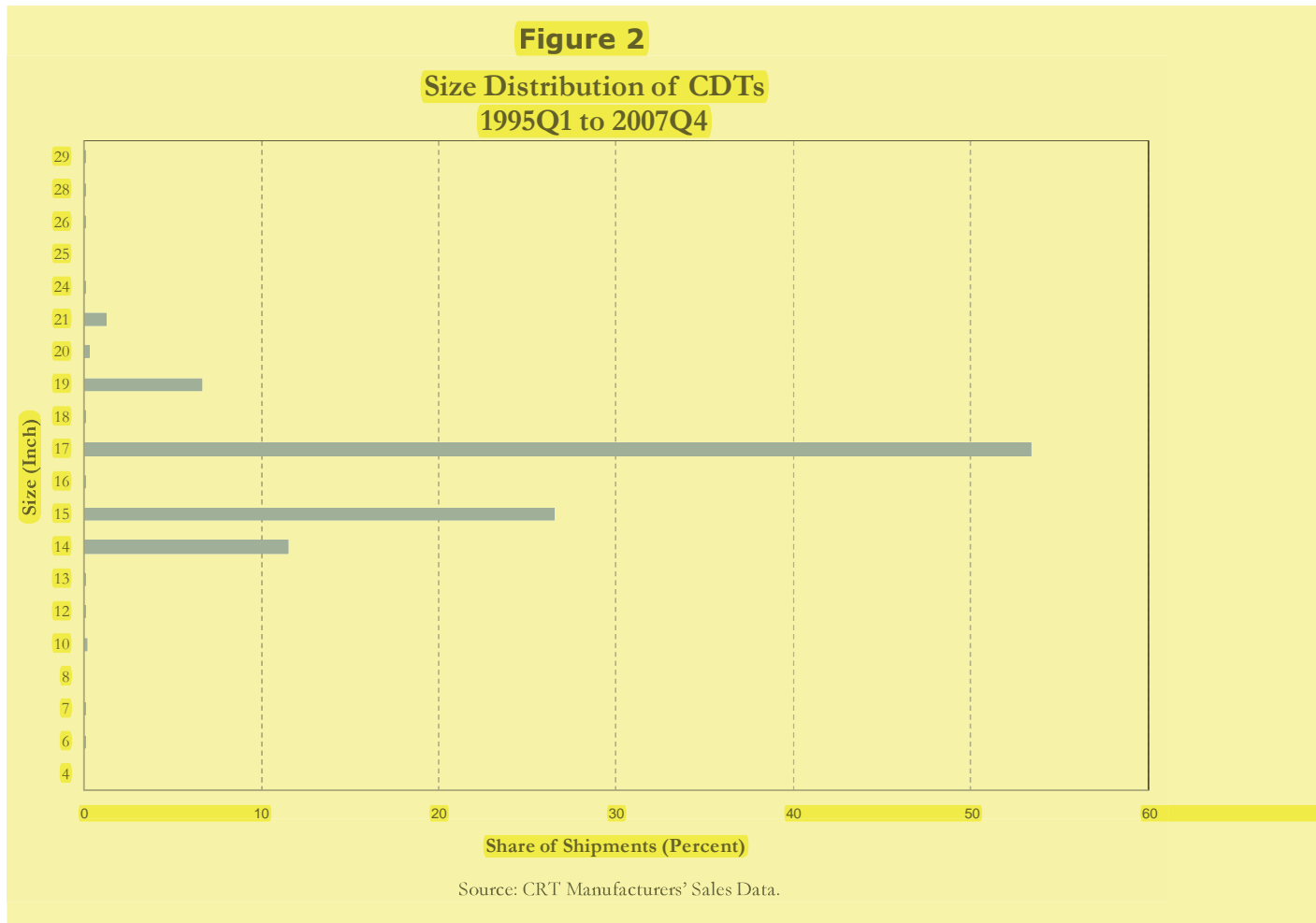
B. Product Varieties

11. CRTs differed mainly by type of use, size, and display resolution, though other characteristics, such as shape, sometimes varied as well. The vast majority of CRT displays sold during the Class Period were able to display color images. CRTs were sometimes sold in different stages of assembly. A CRT sold without a deflection yoke was called a “bare” CRT, while those sold with a deflection yoke were characterized as having an “integrated tube component” (ITC). CRTs used in televisions are often referred to as “CPTs” (color picture tubes). CRTs used in computer monitors and other similar devices like ATMs are referred to as “CDTs” (color display tubes). The basic technology of CDTs and CPTs is the same. CDTs accommodate the higher resolutions desirable for computer monitors while CPTs display brighter pictures to accommodate daytime TV viewing.¹¹
12. The quality of the viewing experience generated by a CRT is determined by a number of different characteristics. The two most important characteristics are the screen size and resolution. The screen size, defined as the diagonal distance measured in inches, determines the viewable area. As depicted in Figure 2 and Figure 3 below, the most widely produced sizes for CPTs were 14, 20, 21, and 29 inches; for CDTs the most widely produced sizes were 14, 15 and 17 inches. These sizes accounted for about 79 percent of total CPT sales and about 91 percent of CDT sales during the class period.

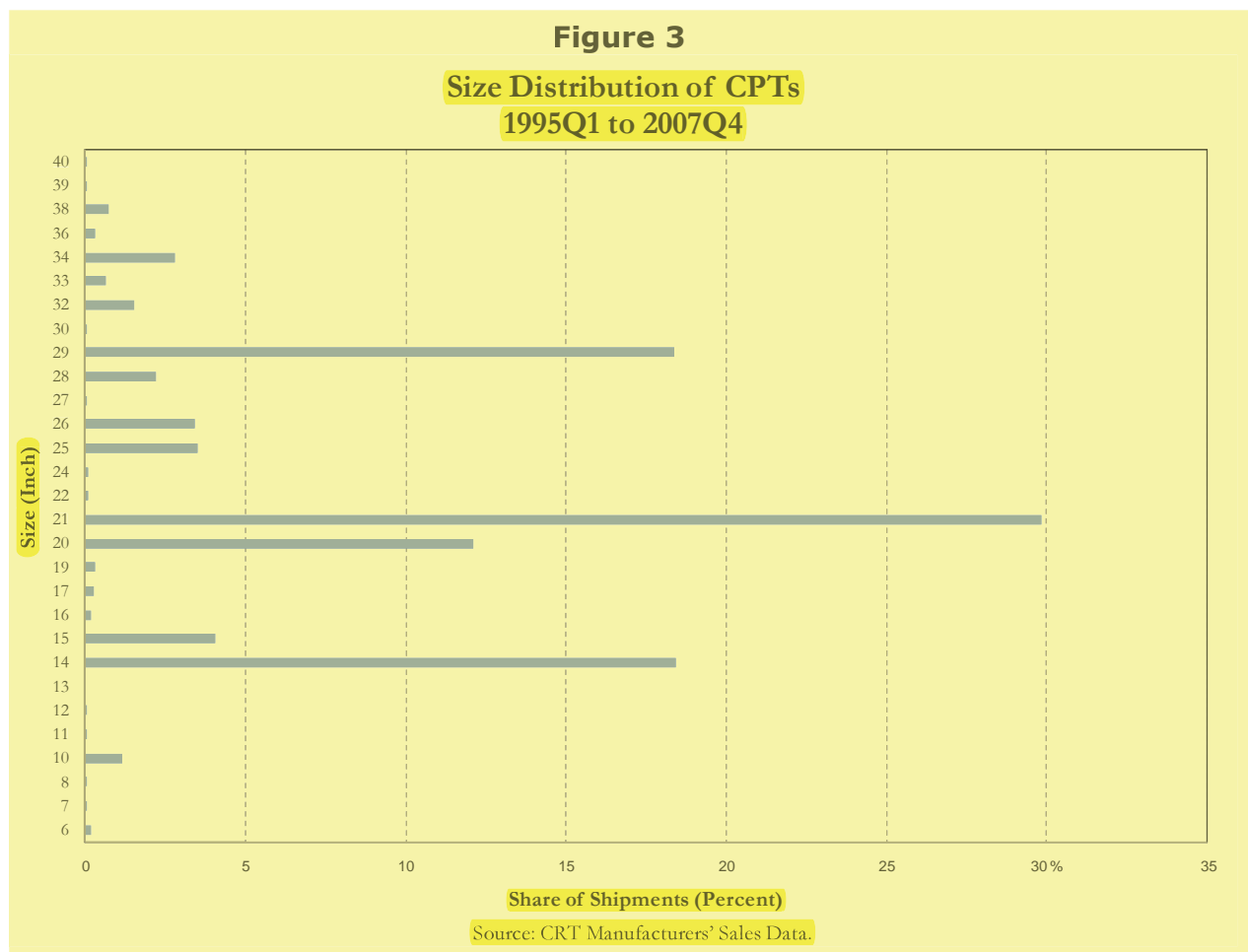
“Samsung SDI Develops the ‘Ultra-slim and Flat CRT,’” <http://www.samsung.com/us/news/517>.

¹¹SDCRT-0021278 - SDCRT-0021294 at 1288-1289 and SDCRT-0202981 at 6 and 12. See also, Deposition of Mok Hyeon Seong (LGE), July 9, 2012 at 97:13-98:9 and Deposition of L. Thomas Heiser (Hitachi), July 3, 2012 at 59:3-60:4.

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C. The CRT Defendants and Co-Conspirators

13. The Defendants and co-conspirators in this matter (listed in Appendix A) were generally large multinational corporations (or their subsidiaries), including: (1) Mitsubishi Entities (Mitsubishi); (2) Thomson Entities (Thomson); (3) Chunghwa Entities (Chunghwa); (4) Orion Entities (Orion); (5) Hitachi Entities (Hitachi); (4) Irico Entities (Irico); (6) LG Electronics Entities (LG Electronics); (7) LG Philips Display Entities (LPD); (8) Panasonic Entities (Panasonic); (9) Philips Entities (Philips); (10) Samsung Entities (Samsung); (11) Thai-CRT; (12) Toshiba Entities (Toshiba); (13) MT Picture Display Co., Ltd. (MTPD); and (14) Beijing-Matsushita Color CRT Company, Ltd. (BMCC). These companies accounted for 85 – 100 percent of CDT sales and 70 – 80 percent of CPT sales during the class period.¹²

¹² For CDT, see SDCRT-0201291; CHU00071226; CHU00154037-CHU00154420 at 154389-90;

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14. CRTs were sold to electronics product manufacturers, primarily for the manufacture of computer monitors and televisions. These product manufacturers included original equipment manufacturers (“OEMs”), which sold finished products under their own brand name. Product manufacturers also included contract manufacturers (“CMs”), which made finished CRT products for other brand name sellers. There were two types of CMs, Electronics Manufacturing Services (“EMSs”), which made products according to their customers’ designs and Original Design Manufacturers (“ODMs”) such as TVP Technology,¹³ which owned and developed the product design.¹⁴ Defendants and co-conspirators also sold CRTs to distributors such as TT Electronics,¹⁵ which then resold them to smaller OEMs and CMs. Some members of the alleged conspiracy, including Mitsubishi, Thomson, Hitachi, LG Electronics, Panasonic, Philips, Samsung, and Toshiba, also produced computer monitors or televisions incorporating the CRTs they manufactured. These were sold mainly to retailers such as Best Buy, Fry’s Electronics, Wal-Mart, Circuit City, and Sears.

D. Changes in CRT Demand over Time

15. CRT televisions were first introduced to the American public in 1939 at the World’s Fair by RCA,¹⁶ and color CRT televisions appeared in the 1950s.¹⁷ Until the later part of the 1990s, CPTs were the dominant display technology used in televisions. In addition, CRT monitors became “the dominant method for interfacing with

CHU00281352-CHU00281923 at 281644-45; CHWA00062147-CHWA00062569 at 62427; CHWA00088192-CHWA00088762 at 88484; CHWA00106460-CHWA00106757 at 106730. For CPT, see MTPD-0416090.

¹³ Bloomberg, “Company Profile for TPV Technology Ltd. (903),” <http://www.bloomberg.com/quote/903:HK/profile>.

¹⁴ See Austin Weber, “Outsourcing’s Alphabet Soup,” *Assembly Magazine*, February 1, 2003, 8, <http://www.assemblymag.com/articles/82852-outsourcing-s-alphabet-soup> (accessed 04/1/2013).

¹⁵ TT Electronics, “About Us,” <http://www.ttelectronics.com/about/>.

¹⁶ Early Electronic Television, “The 1939 New York World’s Fair,” http://www.earlytelevision.org/worlds_fair.html.

¹⁷ Early Television Museum, “Early Color Television,” <http://www.earlytelevision.org/color.html> and Mitchell Stephens, “History of Television,” <http://www.nyu.edu/classes/stephens/History%20of%20Television%20page.htm>; Kathleen McGinn, “The Story of Color Television,” *U.S. 1 Newspaper*, November 14, 2001, <http://161.58.97.168/200111/11114c01.html>.

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computers in the early to mid-1970s”¹⁸ with the release of the Apple I and the Sol-20, “the first computers with factory video outputs in 1976.”¹⁹ The CRT industry steadily grew through the end of the 20th century and in 1999, global CRT monitor sales peaked at almost \$20 billion.²⁰

16. Over time alternative display technologies emerged and by the end of the alleged conspiracy period, largely supplanted CRTs. These alternatives included TFT-LCDs and Plasma Display Panels (PDPs).²¹ TFT-LCDs first emerged in the 1960s and began to be implemented in small portable devices such as digital watches and pocket calculators.²² TFT-LCD technology quickly came to dominate the portable computer market because TFT-LCDs consume relatively little power and had a distinct advantage in terms of size and weight.²³ Technological advances allowed them to be manufactured in bigger sizes and to compete with CRT televisions and desktop computer monitors as early as the 1980s, but they remained relatively expensive for many years.²⁴
17. PDPs were also much thinner than CRT displays, at only 15-20 cm thick.²⁵ PDPs initially had an advantage over TFT-LCDs in being able to display high image-quality

¹⁸ Benj Edwards, “A Brief History of Computer Displays: The Glass Teletype,” *PCWorld*, November 1, 2010, http://www.pcworld.com/article/209224/a_brief_history_of_computer_displays.html.

¹⁹ Benj Edwards, “A Brief History of Computer Displays: Composite Video Out,” *PCWorld*, November 1, 2010, http://www.pcworld.com/article/209224/a_brief_history_of_computer_displays.html.

²⁰ PC TechGuide, “CRT Monitors,” at 2, <http://www.pctechguide.com/06crtmon.htm>.

²¹ Several other technologies have emerged, including Organic Light Emitting Diodes (OLEDs), Digital Light Processing (DLP), Field Emission Displays (FEDs) and Electronic Ink Displays. However, these are far less common. See J. Gurki and L. M. Quach, “Display Technology Overview,” *Lytica White Paper*, July 1, 2005, 1-37 at 33.

²² Benj Edwards, “A Brief History of Computer Displays: The Early LCD Era,” *PCWorld*, November 1, 2010, http://www.pcworld.com/article/209224/a_brief_history_of_computer_displays.html.

²³ Pablo Fuchs, “Scales are tilting in favour of TFT-LCDs,” *Computer Dealer News*, 18(15) (August 16, 2002): 19-20.

²⁴ *Ibid.*

²⁵ J. Gurki and L. M. Quach, “Display Technology Overview,” *Lytica White Paper*, July 1, 2005, 1-37, 26.

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- at large sizes.²⁶ However, PDPs were almost exclusively available in sizes above 34," consumed more power than both CRT and TFT-LCDs and had exceedingly fragile screens.²⁷
18. Over time, as TFT-LCD technology improved and became cheaper, CRT sales began to wane.²⁸ In 2005, even as overall TV sales grew dramatically, sales of "more analog-oriented, direct-view CRT TVs" were declining.²⁹ In December 2005, Matsushita Electric Ind. Co. Ltd. announced that it would shut down two of its CRT-producing subsidiaries.³⁰ In July 2006, Panasonic Taiwan announced a plan to completely stop manufacturing CRT TVs within three years.³¹ In the fourth quarter of 2007, shipments of TFT-LCD TVs surpassed CRT TV shipments for the first time in the history of CRTs.³² In early 2008, Chunghwa Picture Tubes, Ltd. announced the shutdown of its CRT plants in mainland China.³³
19. In December 2006, it came to light that there had been a price-fixing conspiracy involving the major TFT-LCD manufacturers.³⁴ In October 2001, during the period in which the TFT-LCD conspiracy was admitted to be in force, Samsung, Chunghwa

²⁶ Leanne Pitchford, "Plasma Display Panels," *Coalition for Plasma Science*, 2004, 2.

²⁷ J. Gurki and L. M. Quach, "Display Technology Overview," *Lyrica White Paper*, July 1, 2005, 1-37, 26.

²⁸ See Paul Semenza "A New Chapter for the Display Market," *Information Display*, 2010, 1-2, <http://www.sidmembers.org/online/article.cfm?year=2010&issue=05&file=art8> and Pablo Fuchs, "Scales are tilting in favour of TFT-LCDs," *Computer Dealer News*, 18(15) (August 16, 2002), 19-20.

²⁹ Greg Tarr, "Manufacturers Expecting Banner TV Year," *Twice*, July 11, 2005.

³⁰ EE Times-Asia, "MTPD to stop operations of two subsidiaries," December 2, 2005, http://www.eetasia.com/ART_8800398649_480700_NT_fdae735c.HTM.

³¹ Emily Chuang, "Panasonic Taiwan to halt CRT TV production in 2-3 years," *Digitimes*, July 31, 2006, <http://www.digitimes.com/news/a20060731VL201.html>.

³² Darren Murph, "Worldwide TFT-LCD TV shipments surpass CRTs for first time ever," *Engadget*, February 19, 2008.

³³ EMSNow, "CPT closes CRT/CDT production lines in Mainland China," February 6, 2008, <http://www.emsnow.com/newsarchives/archivedetails.cfm?ID=21702>.

³⁴ Reuters, "LCD price-fixing investigation grows," December 12, 2006, http://news.cnet.com/LCD-price-fixing-investigation-grows/2100-1047_3-6142839.html; Neowin Forums, "LCD Price-Fixing Probe Widens," December 12, 2006, <http://www.neowin.net/forum/topic/520907-lcd-price-fixing-probe-widens/>.

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and LG expressed satisfaction at the “recent successful rise in TFT retail prices, believing that it could help to halt further price drops in the downturn market for tubes.”³⁵ In the effort to preserve their market position, CRT producers clearly benefited from higher TFT-LCD prices.³⁶

E. The Alleged Conspiracy’s Control over Sales

20. The Defendants and co-conspirators in this case accounted for the vast majority of industry sales. As shown in Figure 4, the combined market share of the Defendants and co-conspirators from 2000-2006 was close to 90 percent. During this period, the Defendants and co-conspirators held about 80 - 100 percent of the industry’s capacity.^{37,38}

³⁵ CHU00028589.01E-CHU0028590.02E at 28589.01E.

³⁶ CHU00031174.01E - CHU00031175.02E at 1174.01E-1175.01E.

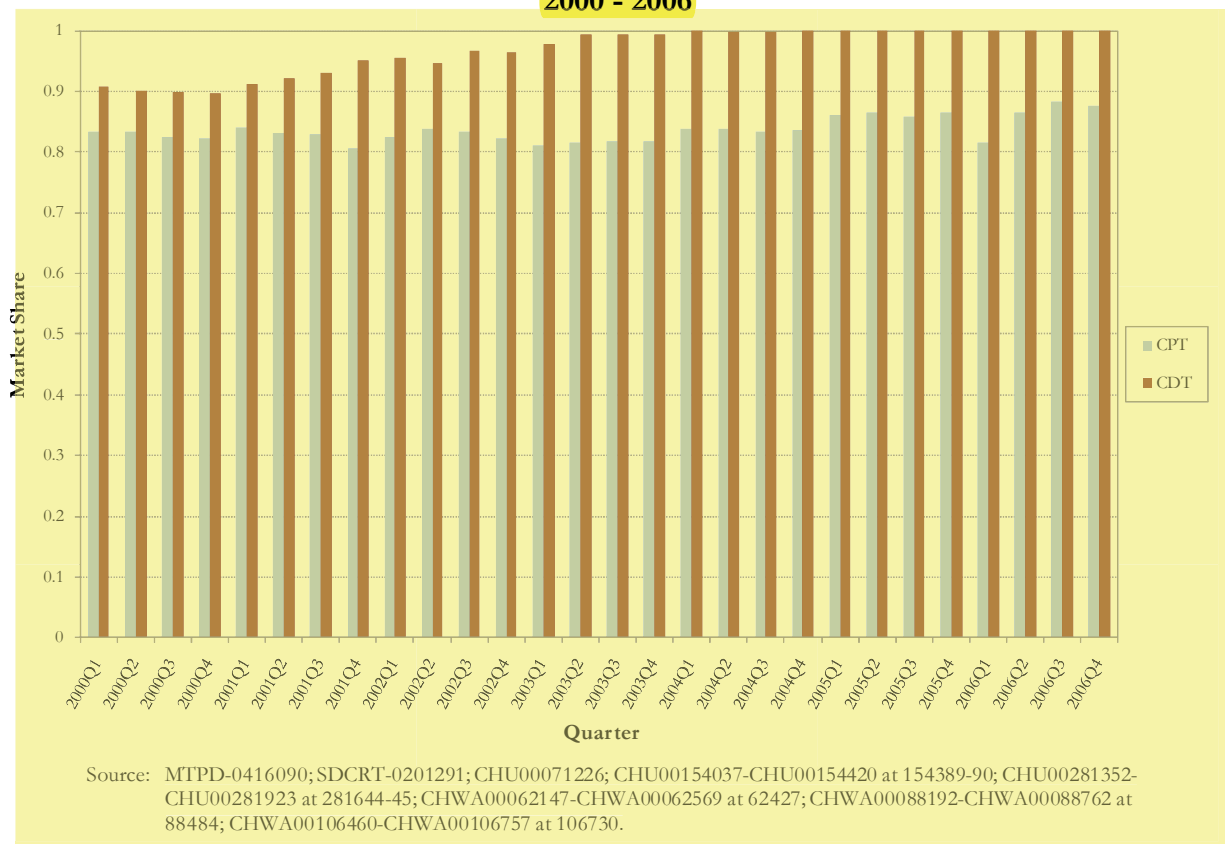
³⁷ See PHLP-CRT-014823.xls; MTPD-0575968.xls; MTPD-0468631.xls; LGE00081653.xls; BMCC-CRT000057539.xls; BMCC-CRT000006384.xls.

³⁸ Defendants’ and co-conspirators’ market share of CDT sales between 1996 and 1999 averaged 89 percent.

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Figure 4

**Defendant and Co-Conspirator Share of Global CRT Production
2000 - 2006**



21. This high degree of control over sales is significant from the standpoint of the impact of the alleged conspiracy. If the participants can collectively coordinate pricing decisions, their control over total industry output will translate that coordination into industry wide price effects. Moreover, their high degree of control also simplifies their coordination issues because there is little by way of an outside competitive presence to exert pressure on the alleged conspiracy's coordination efforts.

IV. Pricing Patterns among CRT Buyers

22. A simple comparison of CRT transaction prices across buyers, without accounting in any way for product differences, would naturally reveal substantial variability. Price variability is sometimes advanced as evidence that a conspiracy was ineffective in enforcing its prices or that its impact was selectively distributed across buyers. However, price variation often just reflects factors like differences in product characteristics, seller reputation or purchase quantities that are unrelated to the

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- impact of the conspiracy. I have analyzed the pricing data for purposes of identifying variability associated with factors of this sort. I find that the vast majority of observed pricing variability is related to these non-conspiracy factors.
23. In this regard, I conducted a series of “hedonic” regressions on actual CRT transaction prices. In essence, a hedonic regression is used to identify relationships between product prices and product, seller or customer characteristics (the “explanatory variables”).³⁹ To reflect product characteristics, I included information from the transaction data regarding the CRT’s size, whether it was widescreen, whether ITC or bare, transaction quantity, and an indicator for the brand. I performed a separate hedonic regression each calendar quarter both for CDT and CPT prices using the actual transaction prices within that quarter.⁴⁰
24. One of the statistics produced by regression analysis is known as the R-Squared. In essence, it represents the percentage of the variation in the variable that is the subject of the analysis (in this case, CRT prices) that can be explained statistically by the explanatory variables (CRT product, transaction and seller characteristics). The R-Squared ranges in value from 0 to 1. Zero means the explanatory variables didn’t account for any of the variation, one means they accounted for all of it. In this context, the R-Squared reveals the percentage of the CRT customer price variation each quarter that can be explained by the non-conspiratorial factors included in the regression.⁴¹
25. In Figure 5 below, I plot (as a series of vertical bars over time) the R-Squared for each of the 104 quarterly regressions associated with the two types of CRTs over the 13 years covered by the analysis. The median R-squared for the CPT hedonic

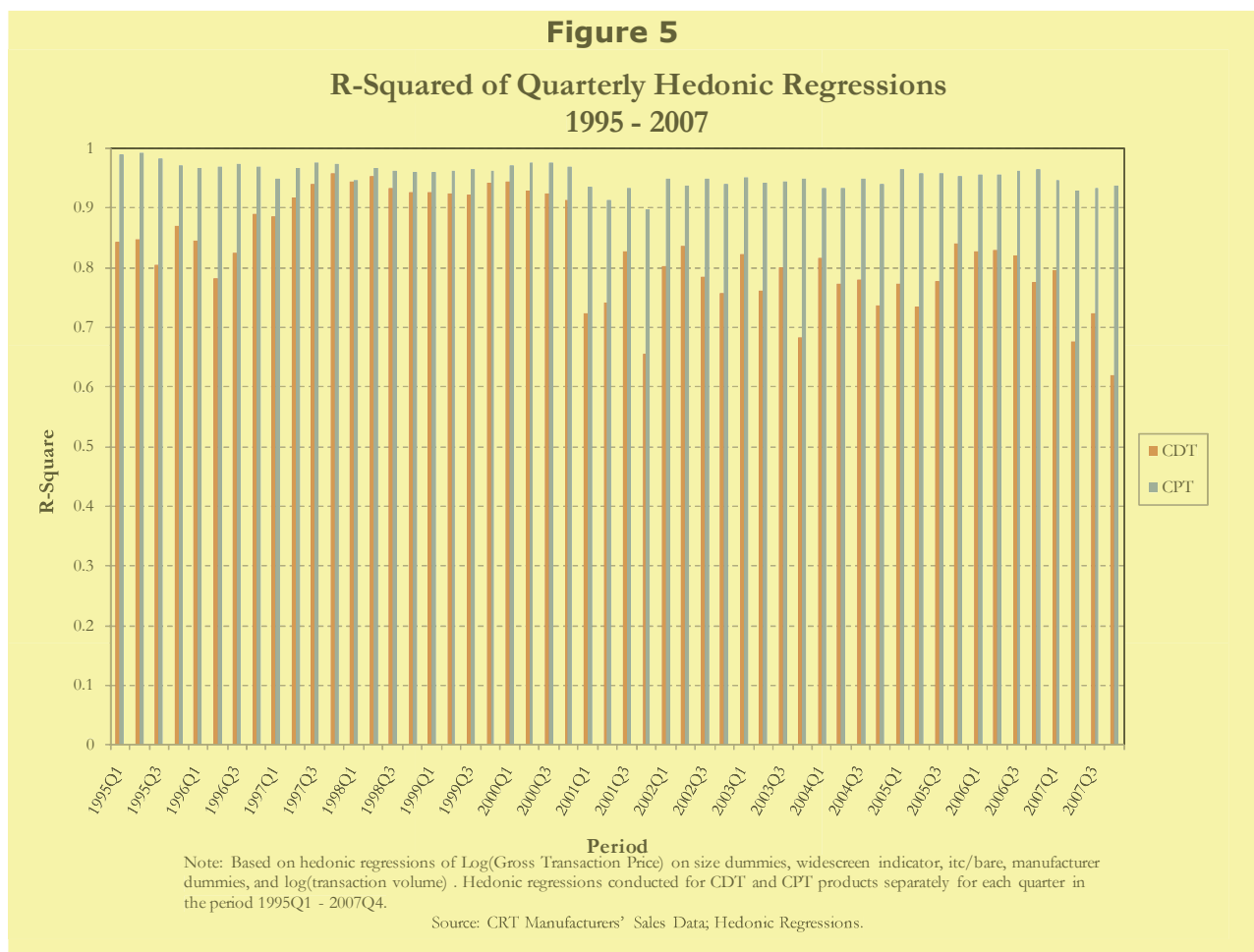
³⁹ See, e.g., S. Rosen, “Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition,” *The Journal of Political Economy*, 82-1 (1974): 34-55.

⁴⁰ I have estimated separate hedonic relationships for the prices and associated product characteristics within each quarter. This allows for enough data within each regression to meaningfully assess the underlying relationships while, at the same time, limiting the degree to which changes over time in the underlying hedonic relationships may confound the estimation.

⁴¹ In this regard, one cannot conclude that the unexplained variation (one minus the R-Squared) is the result of the alleged conspiracy. It may reflect either the effects of the alleged conspiracy or other non-conspiratorial factors excluded from the model.

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regressions was 96 percent and 82 percent for CDTs. The R-Squared exceeded 0.7 in all but four of the 104 results shown in Figure 5. In short, the vast majority of the variability associated with prices can be explained statistically by factors other than the conspiracy.



V. The Alleged Conspiracy

26. In this section, I describe the organization and operation of the conspiracy as alleged by Plaintiffs, along with the manner in which the participants are alleged to have communicated with each other. In doing so, I describe some of the evidence developed by Plaintiffs in support of their allegations. As an economic matter, this evidence is indicative of anticompetitive activity that is broad in scope and multifaceted in the manner in which it affects firm behavior. It supports my opinion that the impact of the alleged conspiracy would be felt broadly by CRT buyers.

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A. Organization and Communication

27. The overarching goal of the alleged conspiracy was to maintain and elevate CRT prices.⁴² The collusive efforts among Defendants and co-conspirators began as early as March 1995.⁴³ Chunghwa, LG Electronics, Samsung, Philips and Orion held “group” meetings in Taiwan, South Korea, Thailand, Japan, Malaysia, Indonesia and Singapore to exchange information, and agree on CRT prices, production levels and customer allocation. Attendees of group meetings also met with non-attending co-conspirators—including Hitachi, Toshiba and Panasonic—to apprise them of information discussed and agreements reached at the group meetings.
28. From 1997 through 2006, there were hundreds of “Glass Meetings” which took place in Taiwan, South Korea, Singapore, Japan, Indonesia, Thailand and Malaysia.⁴⁴ These meetings had a hierarchical structure involving three levels of employees.⁴⁵
 - i. “Top Meetings” were attended by CEOs, Presidents and Vice Presidents and typically occurred quarterly. These meetings focused on long term agreements and enforcement of the alleged conspiracy.⁴⁶

⁴² “It can be understood that one might reduce their price in order to sell, however if the price drops too low, it will not help to increase sales, but instead cause each maker to keep cutting the price and bleed.” CHU00028396.01E- CHU00028397E at 28396.01E. See also CHU00028752.01E-CHU00028754E at 8753.01E and CHU00030787.01E-CHU00030794E at 791.02E, “In view of the market situation, July’s number of non-workdays should be higher than the average number over the April-June period, to demonstrate each maker’s commitment to safeguarding the price.”

⁴³ See Complaint, 2.

⁴⁴ See e.g., Deposition of Chih Chun-Liu Vol. 2 (Chunghwa), February 20, 2013 at 367:17-22, “Q. Did all the group meetings occur in Taiwan, sir? A. No. Q. Where did they occur? A. In Taiwan, Korea, Japan, Malaysia, Thailand, Indonesia.” See also SDCRT-0086672E- SDCRT-0086674E at 672E and Complaint, 32.

⁴⁵ For example, as described by one Defendant employee, “To my recollection there were top management meetings and management meetings, and there were also working level meetings.” Deposition of Jaein Lee Vol. 1 (Samsung), June 6, 2012 at 31:25-32:2. The importance of involving employees from different levels has been identified in academic literature. See, for example, Levenstein, M. and V. Suslow, “What Determines Conspiracy Success?,” *Journal of Economic Literature*, 44 (March 2006): 43-95, talking about successful conspiracies “[t]hey develop an elaborate internal hierarchy that allows communication on various levels (executive and middle-management) not only to provide flexibility in the details of the agreement, but to build trust as well.”

⁴⁶ See e.g., SDCRT-0086593E - SDCRT-0086596E at 6593E-6594E.

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ii. “Management Meetings” were attended by high-level sales executives with pricing authority and took place monthly.⁴⁷ These meetings focused on pricing and output agreements and the implementation of the agreements entered into at the Top Meetings.⁴⁸

iii. “Working Level Meetings” were attended by marketing and lower-level sales personnel and took place weekly or monthly.⁴⁹ The attendees exchanged information on sales and production activities, pricing policies and other topics, then transferred this information to superior members of their company, who had pricing authority. These meetings were often held in preparation for the higher level meetings.

29. In preparation for Glass Meetings, Defendants and co-conspirators often shared information about inventories, production, sales and exports.⁵⁰ In the meetings themselves, Defendants and co-conspirators provided information regarding sales, capacity, production line status, pricing, and demand forecasts.⁵¹ They reviewed information regarding actual market shares and discussed agreements regarding market shares going forward.⁵² They also discussed demand and supply conditions in connection with a “Market Update” for CRTs. They discussed market trends for both CRTs⁵³ and TFT-LCDs.⁵⁴ Suspected violations of the alleged conspiracy agreements

⁴⁷ “To my recollection, [] the management meeting was once a month.” Deposition of Jaemin Lee Vol. 1 (Samsung), June 6, 2012 at 32:24-33:1.

⁴⁸ See e.g., SDCRT-0086593E - SDCRT-0086596E at 6593E-6594E.

⁴⁹ “Management meeting was once a month, and working level meeting was so that we could prepare for the management meeting. So working level meetings were held on the same day as the management meetings or one day before the management meetings.” Deposition of Jaemin Lee Vol. 1 (Samsung), June 6, 2012 at 33:1-5.

⁵⁰ Ibid. See also Complaint, 32.

⁵¹ See Deposition of Jaemin Lee Vol. 1 (Samsung), June 6, 2012 at 34:1-37:13; CHU00660426-CHU00660435; SDCRT-0087934E - SDCRT-0087937E at 7936E; SDCRT-0086649E-SDCRT-0086651E; CHU00031111.01E- CHU00031112.02E; CHU00028685E-CHU00028686E.

⁵² CHU00647932 - CHU00647943 at 7935 and 7941-7942; CHU00660539 - CHU00660548 at 0545-0546; SDCRT-0088763 - SDCRT-0088772 at 8767; SDCRT-0088846 - SDCRT-0088851 at 8848.

⁵³ CHU00660383 - CHU00660394 at 660386 - 660390.

⁵⁴ CHU00647932 - CHU00647943 at 647937-647938.

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- were openly discussed among the participants, along with threats to raid the violator's customer base.⁵⁵ Additionally, the conspirators jointly developed customer explanations for CRT price increases, as well as public statements on supply, capacity and demand for CRTs designed to conceal the effects of the conspiracy.⁵⁶
30. There were also discussions on "How to keep the Price"⁵⁷ or "Price Management." A typical meeting would end with planning for future meetings and "All Other Business"⁵⁸ (which often included discussions about contacting and informing manufacturers not in attendance regarding the agreements reached during the meeting). There was discussion regarding the importance of keeping the industry meetings "confidential considering the international regulation of antitrust laws."⁵⁹
31. There were regional meetings occurring simultaneously with the Glass Meetings, including monthly meetings of Chinese manufacturers to report Glass Meeting decisions. Irico, Hitachi Shenzhen, Samsung SDI Shenzhen, Samsung SDI Tianjin, and Chunghwa participated in these meetings.⁶⁰ There were meetings in Europe that included European manufacturers,⁶¹ such as Thomson and Daewoo-Orion Societe

⁵⁵ Deposition of Chih Chun-Liu Vol. 2 (Chunghwa), February 20, 2013 at 368:1-369:16. See also Deposition of Jaemin Lee Vol. 1 (Samsung), June 6, 2012 at 40:9-17, "Q [] Based on your attendance at these meetings, you were aware that there was an agreement regarding an auditing process for the companies to audit and check regarding the information that the competitors were providing at these glass meetings? [] A: Yes, discussions on that did occur." See also SDCRT_0087953E- SDCRT_0087962E at 953; CHU00028297-CHU00028298 at 8297E; CHU00030698 - CHU00030700 at 0699.01E.

⁵⁶ See CHU00028763E- CHU00028767E at 763E "SDD published the news about reducing production by 20% in Korean newspapers, see attached;" CHU00030701.01E-CHU00030704.02E at 30702.01E, "Mr. David indicated that recently the newspapers and media have repeatedly published information about the expected rise of CDT and Monitor prices. It is quite helpful for our CDT and Monitor makers to raise the prices even further in the future."

⁵⁷ CHU00660487- CHU00660500 at 660497: 20% capacity shutdown and Weekly Quantity and Price monitoring; CHU00030701.01E-CHU00030704.02E at 30702.02E and 30704.01E.

⁵⁸ CHU00660487-CHU00660500 at 500; CHU00660515-CHU00660522 at 522.

⁵⁹ SDCRT-0086672E-SDCRT-0086674E at 86672E; CHU00647932-CHU00647943 at 7943; CHU00031176.01E- CHU00031176.02E at 31176.02E referring to the importance of keeping the meetings secret; CHU00578883.01E-CHU00578885E at 8883.01E.

⁶⁰ SDCRT-0086672E- SDCRT-0086674E at 672E.

⁶¹ For example, an email from April 2003 discusses a meeting of the "Europe CPT companies" LPD, Thomson, and SDI. LPD and Thomson both discuss decreasing demand and line stoppages. See

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Anonyme (DOSA). In June 2002, Thomson, DOSA, SDI, and LPD held a meeting in Rome. The participants in these meetings exchanged sales information, capacity changes, production forecasts, and market demand forecasts.⁶² In addition, there were “Green Meetings,” attended by high-level management, which took place on golf courses.⁶³ Finally, there were many bilateral meetings involving various Defendants and co-conspirators to communicate agreements regarding CRT pricing and output to members of the conspiracy who were unable to attend Glass Meetings. At these meetings, sales and marketing employees exchanged information regarding sales orders, customers, pricing and production levels.⁶⁴

32. SDI and Mitsubishi held several meetings to discuss the CRT industry. Mr. Jaen Lee of SDI testified that, between 1998 and 2005, he met with representatives from Mitsubishi multiple times to discuss the CRT industry. Documents indicate that these meetings were held to discuss “sales projections, pricing and price forecasts, production, [and] LPD’s manufacturing operations.”⁶⁵ For example, SDI held a meeting with Mitsubishi in 2003, “re line closure in Mexico and business negotiations for 17” and 21” CDTs.”⁶⁶ In March of 2004, they met in Korea to discuss “production, customers, and pricing of 19” and 22” CRTs.”⁶⁷ In December 1995, Mitsubishi and Chunghwa held a meeting to exchange information about the market. Mitsubishi revealed that it had ceased production of 14 and 15 inch CDTs in Japan and was producing only 17 and 21 inch CDTs in its factories. Mitsubishi also

SDCRT-0006903E. See also SDCRT-0088635 (Meeting in December 2003).

⁶² SDCRT-0087705E–7E

⁶³ CHU00021268.01E- CHU00021271E at 268.01, Set up itinerary for 3/5 Glass Meeting and 3/6 Green Meeting; CHU00030916.01E- CHU00030916.02E at 30916.02E.

⁶⁴ See CHU00028968.01E-CHU00028969E; CHU00028647.01E- CHU00028647.02E; CHU00028254.01E-CHU00028256E.

⁶⁵ Deposition of Jaen Lee (Samsung), July 24, 2013 at 60:16-24 and 61:22-13. See also SDCRT-0006041E “Report on the Mitsubishi Meeting Results.”

⁶⁶ Samsung SDI Defendants’ Supplemental Responses to Direct Purchaser Plaintiffs’ First Set of Interrogatories, NOS. 4 and 5, October 17, 2011 at 56.

⁶⁷ Ibid. at 64.

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disclosed its estimated production numbers for 1995, 1996, and 1997.⁶⁸ A similar meeting occurred between Mitsubishi and Chunghwa in November 1996. Mr. Ishii of Mitsubishi visited Chunghwa to exchange competitively sensitive information. Mitsubishi revealed information about its current and future CRT production.⁶⁹ Chunghwa and Mitsubishi met again in December 1998 and discussed both CDTs and CPTs. Mitsubishi shared its plans to stop CPT production in Japan. Mitsubishi reported its CDT production volumes for 1997 and 1998 and its projections for 1999. It also provided detailed information about its production lines and current and future capacity plans.⁷⁰

33. A Mitsubishi document, apparently from 2003 or 2004, described meetings between Mitsubishi and executives with SDI, LPD, and SEC.⁷¹ These meetings discussed the firms' demand forecasts, production plans, profits, costs, and future prices of a range of CRT types and sizes. The meetings also discussed justifications to be given to customers for CRT price increases. The view of the Mitsubishi employee was that "the CRT manufactures will have to risk everything to survive."
34. In 1999, Thomson and Samsung met at Thomson's headquarters in France. During this gathering, the two firms exchanged information on production and market supply of CPTs. The notes describe a price agreement between Samsung and Thomson for 20, 21, and 25 inch CPTs and list Thomson's quarter by quarter pricing plan for large-sized models in 2000.⁷² Thomson also exchanged information with Panasonic in August 2002. An email from Shinichi Iwamoto of Matsushita Display Devices America (MDDA) [Panasonic], titled "Information Exchange with Thomson," reports information on Thomson's production and pricing strategies.⁷³ On November 15, 2002, SDI met with Thomson at its headquarters and exchanged

⁶⁸ CHU00028558E

⁶⁹ CHU00028548E

⁷⁰ CHU00028532E

⁷¹ ME00131622E

⁷² SDCRT-0086256-7004 at 6511

⁷³ MTPD-0223790E

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information on sales, capacity, Thomson's changing production technology for 29 inch and 32 inch CPTs, market demand for CPTs in North America, Europe, and Asia, and Thomson's cost reduction efforts.⁷⁴ An SDI email titled "Exchange of Information on Thomson CRT" from 2003 describes capacity changes at a Thomson plant and reports Thomson said that "there will be no additional price cutting."⁷⁵ In 2003 Thomson met in the U.S. with representatives of MDDA and Toshiba Display Devices America (TDDA). Thomson provided TDDA and MDDA with CPT sales and inventory information, CPT capacity and production information, and described interactions with specific customers.⁷⁶

35. The conspirators also communicated plans and information by email. For example, in 2001 a Philips employee received a report by email on Thomson's production of 36 inch and 38 inch CRTs as well as SDI's current and planned production of 19/20 and 25/27 inch CRTs. The email also stated that, "Both SDI and Thomson intend to hold pricing until Q3 2001."⁷⁷
36. The scope, frequency and depth (both as an informational and organizational matter) of these meetings is economically significant from the standpoint of the likely impact of the alleged conspiracy. It suggests extensive communication and coordination regarding the participants' activities. This would facilitate close alignment among the participants with the goals of the alleged conspiracy and broad impact on prices. In addition, several market research firms published prices and revenue figures on a regular basis. DisplaySearch, iSuppli, WitsView, and DisplayBank were publicly available sources of price information for the CRT industry. The conspirators routinely tracked this information and discussed it during their meetings.⁷⁸ Indeed,

⁷⁴ SDCRT-0006632E-33E

⁷⁵ SDCRT-0007239_CT

⁷⁶ MTPD-0576483E

⁷⁷ PHLP-CRT-089918

⁷⁸ See Deposition of Roger De Moor Vol. 1 (Philips), July 31, 2012 at 70:19-71:1, "Q. Do you know what his responsibilities were? A. Collect information about market trends, working with DisplaySearch, and presenting to management the information on which they could base their plans." See also the Deposition of Yun Seok Lee (LGE), July 11, 2012 at 78:8-11 and Deposition of William Allen Whalen Vol. 1 (Hitachi), August 23, 2012 at 110:24-111:13.

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one of the first points of discussion during a typical Glass Meeting was market trends and these sources were often cited.⁷⁹

B. Collusive Activities Directed Towards Output Restraint

37. According to Plaintiffs, the alleged conspiracy participants reached agreements regarding capacity and output. As an economic matter, there is a well-recognized relationship between prices on the one hand and output and capacity on the other.⁸⁰ These agreements included “line stoppage plans”⁸¹ involving temporary⁸² or, in some cases, permanent closures of production lines and reduced number of work days.⁸³ An August 1998 meeting document recorded, “agreed to reduce to 3.9 million units, reached a 25% prod. reduction... companies agreed to reduce production by further 4% in order to maintain the price 17 inch screens at US\$93.”⁸⁴ In some cases, inspectors apparently verified line shutdowns that were part of these agreements.⁸⁵ In a May 1999 Glass Meeting, the conspirators employees agreed that:

⁷⁹ CHU00014230.01E- CHU00014231.02E at 14230.01E and CHU00031111.01E-CHU00031112.02E at 31112.02E.

⁸⁰ See e.g., R.C. Marshall and L. M. Marx, *The Economics of Collusion*, Cambridge: The MIT Press, 2012): 118-119; C. Davidson and R. Deneckere, “Excess Capacity and Collusion,” *International Economic Review* 31- 3 (Aug., 1990): 521-541; R.W. Staiger and F. A. Wolak, “Collusive Pricing with Capacity Constraints in the Presence of Demand Uncertainty,” *The RAND Journal of Economics* 23-2 (Summer, 1992): 203-220. Note that even if conspiracy price discipline breaks down, the reduced industry output will continue to have its industry-wide price effect.

⁸¹ SDCRT-0086593E -SDCRT-0086596E at 86593E at 86593E; CHU00030899.01E-CHU00030903E at 30902E; CHU00030888.01E- CHU00030893.02E at 30888.02E; CHU00030701.01E- CHU00030704.02E at 30702.02E.

⁸² SDCRT-0086632E - SDCRT-0086633E at 6632E; CHU00030787.01E- CHU00030794E at 30787.01E and 30791.02E-30793E; CHU00031111.01E- CHU00031112.02E at 31112.02E; SDCRT-0086649E-SDCRT-0086651E at 86650E-86651E.

⁸³ See CHU00028768.01E- CHU00028770E at 28768.01E; SDCRT-0086632E-SDCRT-0086633E at 86632E; SDCRT-0086641E- SDCRT-0086645E at 86642E and 86645E; CHU00030787.01E-CHU00030794E at 30791.02E.

⁸⁴ SDCRT-0086419E-SDCRT-0086420E at 419E.

⁸⁵ SDCRT-0086593E-SDCRT-0086596E at 86596E; SDCRT-0086641E-SDCRT-0086645E at 86643E; CHU00031075.01E -CHU00031087E at 75.01E; SDCRT-0091599E - SDCRT-0091604E at 1602E.

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17" CDT production will stop for 5 days (25 operating days) to adjust the actual production volume in order to maintain the price level.⁸⁶

38. A November 2000 document recorded, “market demand in November is worse compared to October, in order to maintain the stability of pricing, a stricter control of the output volume is needed.”⁸⁷ In market updates and reviews later that year the conspirators noted that:

[T]his year the 17" [CDT] price has been able to be keep at a price no less than \$90 because of the glass meetings,⁸⁸ and

Price-up trend in European & American market thanks to capacity reduction in Asia.⁸⁹

39. Other documents record production controls aimed at stabilizing prices.⁹⁰ For example in 2007, CPT manufacturers in China including “Panasonic Beijing, Samsung Shenzhen [SDI], Seg-Hitachi, Thomson, LG Changsha, Philips Nanjing, Shanghai Yongxin [Novel], and IRICO,” announced that “the entire CRT TV [CPT] industry stopped production for 20 days.”⁹¹

⁸⁶ Samsung SDI, May 1999, Report on the CDT management meeting results (May of ‘99), SDCRT-0086632E-SDCRT-0086633E at 6632E.

⁸⁷ CHU00031075.01E- CHU00031087E at 076.01.

⁸⁸ CHU00030888E- CHU00030893.02E at 889.01E.

⁸⁹ CHU00030899.01E- CHU00030903E at 902E.

⁹⁰ SDCRT-0086632E - SDCRT-0086633E at 86632E; SDCRT-0086419 - SDCRT-0086420 at 419E; CHU00031075 - CHU00031087 at 31076.01E; CHU00022696.01E- CHU00022696.02E at 22696.01E; CHU00660549 - CHU00660560 at 557-559; CHU00014200 - CHU00014201E at 14201E. The cartel members also exchanged production and capacity information useful for coordinating plans, e.g., CHU00028760.01E-2E at 61E-2E reports SDI, LG, Orion, Hitachi, Toshiba, Panasonic, Mitsubishi, Chunghwa, and Philips.

⁹¹ CHWA00226236 - CHWA00226269 at 44.

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40. Plaintiffs also allege that the conspiracy explicitly allocated market shares and customers. The conspirators reached agreements regarding output in the form of “Capacity Control Guideline[s]” and “M/S Allocation” (i.e. market share allocation).⁹² One way this was done was that the alleged conspiracy divided the market as a whole by targeting specific market shares of sales for individual conspiracy members.⁹³ Additionally, they discussed allocating exclusive rights to major customers or large shares of certain major customers amongst members.⁹⁴ For instance, in connection with CDT customer AOC, the conspirators discussed the following:

In addition, with regard to each maker’s share with A.O.C., it was reviewed and set as follows: [Chunghwa]: 50% PH: 20% SDD/ORION: 30% (SDD and Orion will review as to how to share that 30%).⁹⁵

41. In another example from a CPT meeting, conspirators discussed:

With Thai-CRT/TEDI’s promise that they would not grab Chunghwa Picture Tube’s M/S orders (maintained at the original 50%).⁹⁶

42. Various documents obtained through discovery in this case reference meetings at which Defendants and co-conspirators exchanged plans and information related to

⁹² CHU00647932 - CHU00647943 at 7935, 7939 and 7941-7942; CHU00608095- CHU00608105 at 608100 and 608104; SDCRT-0088846- SDCRT-0088851 at 88848-88849; SDCRT-0088763- SDCRT-0088772 at 8767. See also Deposition of Jaemin Lee Vol. 2 (Samsung), June 7, 2012 at 248:15-249:2, “And the plan for 2004 indicates the figures that each company proposed as what they would like to do. And when you get the percentage in total volume and divide by a hundred, that will be the MS here.”

⁹³ Several documents report a comparison of “Agreed” vs. “Actual” market shares. See for instance SDCRT-0088763- SDCRT-0088772 at 8767; SDCRT-0088846- SDCRT-0088851 at 8848; CHU00029259 - CHU00029261 at 9261.01E; CHU00647932- CHU00647943 at 7935.

⁹⁴ CHU00660561 - CHU00660574 at 0569; CHU00660539 - CHU00660548 at 0545-0546; SDCRT-0091687 - SDCRT-0091691 at 1689E.

⁹⁵ CHU00030763E - CHU00030765E at 0764E-0765E.

⁹⁶ CHU00029259.01E - CHU00029261.02E at 9261.01E.

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CRT production.⁹⁷ For example, documents show that in 2003, the conspirators conducted at least 18 meetings in which they discussed various ways of reducing the current CDT production and 7 meetings discussing reduction of CPT production.⁹⁸ Figure 6 summarizes the number of meetings between conspirators relating to production plans and information.⁹⁹

Figure 6: Meetings Referencing Production Restraints

Product Type	Capacity Control Topic	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(1)+(2)+...+(12) (13)
CDT	Line Shutdown	-	-	-	1	-	1	4	2	16	9	8	-	41
	Line Reduction	-	-	4	4	14	10	9	-	6	2	1	-	50
	Information Exchange	-	4	7	7	14	8	4	6	7	2	4	-	63
	Total Documents ¹	-	4	11	9	24	13	9	7	18	12	9	-	116
CPT	Line Shutdown	-	-	-	-	-	-	1	-	-	-	-	-	1
	Line Reduction	-	-	-	4	3	1	4	1	1	-	1	-	15
	Information Exchange	1	1	1	3	4	6	7	5	6	11	10	2	57
	Total Documents ¹	1	1	1	5	6	7	9	6	7	11	11	2	67

¹ Total Documents refers to the total number of documents referencing capacity control in a year.

Source: Conspiracy documents.

C. Price Targeting

43. The participants in the conspiracy agreed at various times through the meetings and other communication described above to “bottom prices,”¹⁰⁰ price increases,¹⁰¹ price

⁹⁷ Given the prospects for other meetings to have occurred which are not documented in the discovery in this case, Figure 6 likely reflects a fraction of the total communication that occurred with respect to these topics.

⁹⁸ Appendix B lists these documents.

⁹⁹ Line shutdown refers to an apparent coordination and communication by manufacturers of plans for permanent closures of entire production lines. Line reduction refers to coordination and communication of plans for some kind of reduction in the output or capacity of a line that will remain in operation (e.g., the number of days a line runs in a month). “Information Exchange” includes the sharing of information on capacity or production capabilities between firms. This category includes the exchange by manufacturers of strategic information regarding their production capabilities, capacities or existing plans for line changes and shutdowns.

¹⁰⁰ For example see CHU00028768.01E- CHU00028770E at 28768.01E and 28770E, “Everyone shall persist in guarding the bottom line under a common understanding among the CDT industry...” and CHU00028725.01E- CHU00028727E at 28727E, “Guard Bottom Price. Do not lower prices to take other

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ranges,¹⁰² price guidelines,¹⁰³ internal transfer prices¹⁰⁴ and price differentials.¹⁰⁵ They also established “Pricing Policy” or a “New Price Guideline” (usually in the form of price floors or bottom prices).¹⁰⁶ Specific price guidelines were sometimes set for certain customers,¹⁰⁷ along with discounts for other “Major customer[s]” (typically \$1-\$2 less than prices for “all others”).¹⁰⁸ In doing so, Defendants and co-conspirators effectively established price targets at various points in time for the top-selling CRTs. Using Glass Meeting documents (contemporaneous meeting notes and documents prepared by Defendants and co-conspirators for use during the meetings), my staff compiled a data set containing price targets they were able to find.¹⁰⁹ In a

makers’ orders.” See also CHU00030787.01E- CHU00030794E at 30791.01 and 30793E; MTPD-0423675E- MTPD-0423677E at 423675E; SDCRT-0086416E- SDCRT-0086418E at 86416E; SDCRT-0086593E- SDCRT-0086596E at 86593; CHU00028752.01E-CHU00028754 at 28752.01E.

¹⁰¹ SDCRT-0086593E- SDCRT-0086596E at 86593E; CHU00030787.01E- CHU00030794E at 30791.01E; MTPD-0423651E at sheet 2; CHU00660681-CHU00660692 at 689; CHU00123358E- CHU00123361.02E at 358E; CHU00031249E- CHU00031252E at 31249.02E; CHU00030701.01E-CHU00030704.02E at 30701.02E. See also Deposition of Jaemin Lee Vol. 2 (Samsung), June 7, 2012 at 250:14-16 “My understanding is that the companies were saying well, let’s have a discussion on raising prices.”

¹⁰² CHU00028815E- CHU00028816E at 28816E; CHU00028666E-CHU00028667E at 28667E.

¹⁰³ CHU00036394E-CHU00036395.02E at 36395.01E; CHU00036408E-CHU00036409.02E at 36409.01E; CHU00036384E- CHU00036385E at 36384.02E; CHU00608095- CHU00608105 at 105; SDCRT-0087934E - SDCRT-0087937E at 7935E; CHU00031111.01E- CHU00031112.02E at 31112.01E.

¹⁰⁴ See SDCRT-0086641E- SDCRT-0086645E at 86641E, List 14” and 15” price to be applied as of August 1 with an internal price listed or gap stated; CHU0031174E-CHU00031175.02E at 31175.01E.

¹⁰⁵ SDCRT-0086632E - SDCRT-0086633E at 6633E; CHU00030787.01E-CHU00030794E at 30791.01E; CHU00028725.01E- CHU00028727E at 28727E; CHU0031174E-CHU00031175.02E at 31175.01E; CHU00029144.01E- CHU00029146.02E at 29144.02E-29146.01E which lists price conversions for if the models are ITC or Bare; SDCRT-0086662E- SDCRT-0086664E at 86662E “Honestly, LG is absolutely weaker than Samsung and Chunghwa, so LG cannot compete at the same price level.”

¹⁰⁶ SDCRT-0086512E - SDCRT-0086513E at 6512E-6513E; SDCRT-0086649E-SDCRT-0086651E at 86649E.

¹⁰⁷ SDCRT-0086512E - SDCRT-0086513E at 6512E-6513E; CHU00028687E- CHU00028688E at 28688E; CHU00029144.01E- CHU00029146.02E at 29144.02E-29146.01E.

¹⁰⁸ See CHU00028725.01E- CHU00028727E at 28727E; CHU00647932- CHU000647943 at 940; SDCRT-0086416E-SDCRT-0086418E at 86416E; CHU00031240.01E-CHU00031247E at 31242E; TAEC-CRT-00089968-TAEC-CRT-00089969 at 89968.

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number of instances, possible price targets could not be used because of incomplete information regarding the meeting date or the date of effectiveness. For these reasons, as well as the gaps that routinely occur in efforts to use historical documents to reconstruct behavior, I expect that this dataset understates the full extent of price targeting.

44. The target prices that we found through this effort involved a range of CRT types and sizes that accounted for the vast majority of CRT shipments. As shown in Figure 7, the share of shipments represented by the targeted CRTs was 90 percent for CPTs and 98 percent for CDTs. This means that price targeting, if effective in influencing actual prices just for the targeted CRTs, would have directly impacted products accounting for about 94 percent of CRT shipments during the Class Period. That result, by itself, goes a long way towards establishing the existence of broad impact on the part of the alleged conspiracy.
45. For each of the targeted products in Figure 7 below, multiple target prices were located. Generally, for a given product type and size, there were dozens of instances where a target price was agreed upon and communicated amongst the alleged conspiracy participants. The number of target prices found for CDTs ranged from 36 (for 19 inch) to 77 (for 15 inch); for CPTs, we found as few as 8 target prices (for 28 inch) and as many as 100 (for 14 inch).

¹⁰⁹ Where the target involved a range of prices, the minimum price was recorded. Prices that appeared simply to be the sharing of past price information were excluded. Prices for an ongoing month or quarter were included as targets when they were discussed in the first half of the month or quarter.

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Figure 7: Targeted CRT Products' Share of Shipments

Product Type	Size	Share of Shipments
(1)	(2)	(Percent)
		(3)
1. CDT		
	14	11.45 %
	15	26.52
	17	53.55
	19	6.64
Total CDT		98.16 %
2. CPT		
	14	18.80 %
	15	3.95
	20	11.80
	21	30.60
	25	3.40
	28	2.14
	29	18.02
	32	1.49
Total CPT		90.19 %
<p>Note: Sales of CRT products unidentified as CDT or CPT not included. Sales of CRT products with missing size are also not included. "Targeted Products" are CRTs for which target prices were found.</p>		
<p>Source: CRT Manufacturers' Sales Data; Conspiracy Documents.</p>		

VI. The Impact of Price Targets

A. With Respect to Targeted CRTs

46. Based upon the continuing meetings and communication among the alleged participants in the conspiracy and the attention devoted to price targets during those meetings, I would expect that the price targeting process was effective, at least to some extent, in raising prices. It would be difficult as an economic matter to understand the continuing time and effort devoted to target prices if they operated to no avail. My expectations aside, I have analyzed the relationship between price targets and actual sales prices.

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47. First, I looked to see whether target prices and actual prices moved together—that is, whether higher than average price targets lined up with higher than average actual prices, etc. If the price target influences actual prices, even if they don't always match, one would expect to find that these prices moved together. Economists often look to correlation coefficients as a measure of the extent to which different economic variables move together. Correlation coefficients range in absolute value from 0 to 1. One is perfect correlation, zero indicates no correlation. I find that price targets and transaction price levels (the average transaction price for the targeted product) were highly correlated. The correlation coefficient is 0.98. Clearly, higher price targets were closely associated with higher actual prices.
48. As a second step in analyzing the relationship between target prices and transaction prices, I have employed regression analysis. For that purpose, I first calculated the quarterly shipment-weighted average actual CRT price for each customer, product type, size, and finish, for which I found a target price.¹¹⁰ I then estimated a regression model on those quarterly average prices using the previous quarter's actual price, and price targets (both in the current quarter and in the prior quarter and represented separately for CDTs and CPTs) as explanatory variables.¹¹¹ I also included a set of supply and demand factors (described below as part of my estimation of the cartel's overcharges on sales of CRTs) likely to have influenced actual prices.¹¹² Finally, I include fixed effects for customer-product type-size-finish categories. Figure 8 reports the results of this regression. The results reveal a positive and statistically strong relationship between target prices and actual prices, separate and apart from the effects of other market factors. The estimated coefficients are statistically significant at the 95 percent level.
49. In Figure 9 below, I show the results of target price regressions estimated separately for North American and non-North American sales. These results show that, with a

¹¹⁰ In regards to my use of average quarterly prices, I note that the price guidelines were primarily set at a quarterly level.

¹¹¹ By including both the current price target and the price target from the prior quarter, I allow for the possibility that the full effect of the target may take some time to manifest itself in actual prices.

¹¹² Namely, the price of glass, lagged quarterly CRT shipment volume, lagged quarterly LCD share, quadratic trend, production growth and unemployment rate of countries in G7, as well as fixed effects.

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high degree of statistical confidence, target prices developed pursuant to the conspiracy resulted in higher CRT prices both in North America and in the rest of the world.

Figure 8: Target Prices Influenced Actual Prices

Variable	Estimate	Clustered ⁹ St. Error	T-Value	P-Value
(1)	(2)	(3)	(4)	(5)
<i>Dependent Variable:</i>				
Log(Actual Price) ¹				
Log Actual Price (-1)	0.190 *	0.101	1.881	0.063
Log Target Price (-1) * CDT	0.719 ***	0.102	7.029	0.000
Log Target Price (-1) * CPT	0.380 ***	0.108	3.533	0.001
DLog Target Price * CDT ²	0.653 ***	0.079	8.276	0.000
DLog Target Price * CPT	0.122 **	0.059	2.086	0.039
Log BLS Glass Price (-1) ³	0.419	0.267	1.568	0.120
DLog BLS Glass Price	0.177	0.248	0.712	0.478
Log BOK Glass Price (-1) ⁴	0.227 **	0.099	2.297	0.023
DLog BOK Glass Price	0.228 *	0.118	1.929	0.056
Log CRT Quantity (-1)	0.002	0.003	0.884	0.378
LCD/(LCD+CRT) Sales (-1) ⁵	0.245	0.161	1.523	0.131
LCD/(LCD+CRT) Sales (-1) ²	-0.016	0.124	-0.129	0.898
G7 Production Growth ⁶	-0.001	0.005	-0.129	0.897
G7 Unemployment Rate ⁷	-0.014	0.017	-0.819	0.415
Trend	0.002	0.001	1.229	0.222
Trend-square	0.000 ***	0.000	-2.970	0.004
Constant	-0.403	1.324	-0.304	0.762
Fixed Effects ⁸	YES			
R-Square	0.962			
Observations	5,898			

*** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level

¹ Quarterly average transaction price weighted by quantity for each manufacturer, customer, product type, and size.

² DLog Target Price is the difference between the Logs of the current target price and target price in the previous period.

³ Producer price index for machine-made pressed and blown lighting, automotive, and electronic glassware from BLS.

⁴ Producer price index of CRT glass from Bank of Korea.

⁵ Total LCD/(LCD+CRT) sales ratio by application. Extrapolated in years with missing data.

⁶ Quarterly growth rate of industrial production for G7 member countries.

⁷ Quarterly unemployment rate for G7 member countries.

⁸ Fixed effects by manufacturer-customer-product type-size (and finish) are included.

⁹ Clustered Robust Standard Errors by Manufacturer-Quarter.

Source: CRT Manufacturers' Sales Data; DisplaySearch; Bank of Korea; U.S. BLS; OECD; Conspiracy Documents.

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Figure 9: Target Price Influenced North American Prices

Variable	Estimate	Clustered ¹¹		P-Value
		St. Error	T-Value	
(1)	(2)	(3)	(4)	(5)
<i>Dependent Variable:</i>				
<u>Log(Actual Price)¹</u>				
Log Actual Price (-1)	0.191 *	0.102	1.878	0.063
Log Target Price (-1) * CDT * North America ²	0.609 ***	0.140	4.347	0.000
Log Target Price (-1) * CPT * North America	0.498 ***	0.112	4.430	0.000
Log Target Price (-1) * CDT * ROW ³	0.723 ***	0.102	7.074	0.000
Log Target Price (-1) * CPT * ROW	0.376 ***	0.108	3.487	0.001
DLog Target Price * CDT * North America ⁴	0.645 ***	0.126	5.117	0.000
DLog Target Price * CPT * North America	0.187 **	0.073	2.550	0.012
DLog Target Price * CDT * ROW	0.650 ***	0.079	8.184	0.000
DLog Target Price * CPT * ROW	0.123 **	0.061	2.016	0.046
Log BLS Glass Price (-1) * North America ⁵	0.430	0.267	1.608	0.111
DLog BLS Glass Price * North America	0.186	0.248	0.753	0.453
Log BOK Glass Price (-1) * ROW ⁶	0.226 **	0.099	2.278	0.025
DLog BOK Glass Price * ROW	0.227 *	0.119	1.912	0.058
Log CRT Quantity (-1)	0.002	0.003	0.857	0.393
LCD/(LCD+CRT) Sales (-1) ⁷	0.247	0.162	1.529	0.129
LCD/(LCD+CRT) Sales (-1) ²	-0.015	0.125	-0.119	0.905
G7 Production Growth ⁸	-0.001	0.005	-0.122	0.903
G7 Unemployment Rate ⁹	-0.013	0.017	-0.781	0.437
Trend	0.002	0.001	1.275	0.205
Trend-square	0.000 ***	0.000	-3.005	0.003
Constant	-0.469	1.324	-0.354	0.724
Fixed Effects ¹⁰	YES			
R-Square	0.962			
Observations	5,931			
*** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level				
¹ Quarterly average transaction price weighted by quantity for each manufacturer, customer, product type, and size.				
² North American customers identified if bill-to-country (or ship-to-country if former missing) is U.S., Mexico, or Canada.				
³ Rest of World customers identified if bill-to country (or ship-to if former missing) is not North-America or is Unknown.				
⁴ DLog Target Price is the difference between the Logs of the current target price and target price in the previous period.				
⁵ Producer price index for machine-made pressed and blown lighting, automotive, and electronic glassware from BLS.				
⁶ Producer price index of CRT glass from Bank of Korea.				
⁷ Total LCD/(LCD+CRT) sales ratio by application. Extrapolated in years with missing data.				
⁸ Quarterly growth rate of industrial production for G7 member countries.				
⁹ Quarterly unemployment rate for G7 member countries.				
¹⁰ Fixed effects by manufacturer-customer-product type-size (and finish) are included.				
¹¹ Clustered Robust Standard Errors by Manufacturer-Quarter.				
Source: CRT Manufacturers' Sales Data; DisplaySearch; Bank of Korea; U.S. BLS; OECD; Conspiracy Documents.				

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B. With Respect to Other CRTs

50. There were some CRT configurations for which I did not find price targets (representing about 1.8 percent of CDT shipments and 9.8 percent of CPT shipments). However, the evidence presented below shows price targeting likely would have impacted these CRTs as well. This evidence takes two forms. First, there is qualitative evidence drawn both from the discovery taken in this case and from economic theory that would lead one to expect that price targets would affect the pricing for all CRTs. Second, statistical analysis reveals a close and consistent relationship among actual prices for CRTs with price targets and prices for other CRTs.

1. Qualitative Evidence

51. Most CRTs were used in a few key applications with well understood characteristics that manufacturers readily could produce. CPTs and CDTs were manufactured using the same basic production processes. Indeed, CPTs and CDTs could be—and were—produced on the same production lines.¹¹³ Product differentiation was largely a matter of size/performance metrics that each manufacturer was capable of producing. Indeed, there were standardized product specifications that all manufacturers used.¹¹⁴
52. A CRT production facility often produced a mix of products configured for different applications. It was possible to produce two different sizes on the same line in

¹¹³ See EIN0017699- EIN0018075 at 17729 and 17747; CHU00125257-CHU00125292 at 125264; Deposition of Jaemin Lee Vol. 1 (Samsung), June 6, 2012 at 113:8-114:3 and 115:5-16; Deposition of Chih Chun-Liu Vol. 1 (Chunghwa), February 19, 2013 at 34:1-35:2, “Q. Okay. And number 1 where it’s “CPTT”, When you manufactured both CPTs and CDTs, how many different lines of each did you have? A. Oh, it’s hard to say. Depends market: we have to modify this to this, this to that. I cannot remember. Q. Okay. So, if you had -- so depending on the market, you would adjust your lines to CPTs and CDTs; is that correct? A. Correct.”

¹¹⁴ Deposition of Deposition of Chih Chun-Liu Vol. 2 (Chunghwa), February 20, 2013 at 298:23-300:21. See also, Video Electronics Standards Association, “VESA and Industry Standards and Guidelines for Computer Display Monitor Timing (DMT), Version 1.0, Revision 11,” May 1, 2007, ftp://ftp.cis.nctu.edu.tw/pub/csie/Software/X11/private/VeSaSpEcS/VESA_Document_Center_Monitor_Interface/DMTv1r11.pdf. The principal dimensions of product differentiation in CRTs were application, size, and resolution. Other ancillary features of the tubes included contrast ratio, brightness, flatness, and power consumption. The first three of these resemble resolution, in that more is generally better (for size there would have been some exceptions to this in certain uses). The last has the opposite hierarchy, where less is better.

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tandem (one unit of one size and then, the other unit of the next size).¹¹⁵ If a customer wanted to change certain aspects of the configuration, the production lines were flexible enough to make those changes in short order, in some cases within the same day.¹¹⁶ Given this flexibility, price differences between CRTs of different characteristics that were not cost-related would be expected as an economic matter to induce changes in output in favor of the more profitable configurations, creating market pressure to re-align prices. As a result, prices across CRT configurations would be economically linked over time.

53. This created a structured pricing environment in which buyers and sellers started with base configurations and then incorporated add-ons associated with a particular customer need. This structure is reflected in the documents and deposition testimony taken in this case.¹¹⁷ In numerous meeting documents, prices for CRTs were presented as differentials from other CRTs.¹¹⁸ In addition, price differentials sometimes were given for specific product characteristics, for example, “[t]he current Agreed Price should be 0.28MPRII/USD150, 0.26TCO/USD160, Dot Pitch price difference remained at USD5.”¹¹⁹ The conspirators paid attention to this structure in their efforts to inflate prices, for example, observing in one instance, “This would narrow the price difference between 15” and 17” and would in turn affect the success

¹¹⁵ Deposition of Jay Alan Heinecke (Toshiba), July 31, 2012 at 84:10-17; EIN0017699- EIN0018075 at 17729 and 17747. “The Company’s CRT production lines are highly flexible. Both CDT and large CPT lines,...can produce two different sizes at the same time.”

¹¹⁶ Deposition of Jay Alan Heinecke (Toshiba), July 31, 2012 at 82:13-85:22.

¹¹⁷ CHU00029144.01E- CHU00029146.02E at 29145.01E-29146.02E, List price conversion for if the model is ITC or Bare; CHU00029147E-CHU00029151E at 29149E -29150.01E; CHU00031111.01E- CHU00031112.02E at 31112.01E, “Each maker agreed to change the price differential between 17” regular and flat tubes to \$14;” CHU00030809.01E-CHU00030814E at 30810.01E, “the price differentials for Coating, Frequency, and Dot Pitch will be, respectively, USD 3/pc, USD2/pc, and USD 5/pc.”

¹¹⁸ See e.g., CHU00014200.01E- CHU00014201E at 200.02; CHU00028760E -CHU00028747E.

¹¹⁹ See CHU00030807.01E- CHU00030815.E at 808.01E.

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in price hike for the 15".¹²⁰ The following testimony was given in the Liu deposition:¹²¹

Q: Let's assume for a moment that you were to raise the price of 15-inch color picture tubes, without changing the price of the 17-inch color picture tubes. Do you have an understanding, based upon your years of experience in the CRT business, what effect, if any, that would have on the relative mix of sales of 15-inch and 17-inch CPT tubes?

THE WITNESS: This question is not difficult. We are professionals in this industry. We are selling tubes like professionals if not experts. How could we only change the price of a 15 inches tubes [sic] without changing the prices for 17 inches of tubes? Of course, we would consider the overall market structure and the market acceptance and the reasonable cost gaps. We would certainly raise the prices at the same time.

THE WITNESS: [...] [T]he price will be an overall comprehensive consideration of all products. We would not focus only on one type of products unless the cost gaps were unreasonably different. We would not only raise the price for 15 inches without changing prices of all other items unless there is a particular situation that the purchase of 17 inches was not that strong and the purchase for 15 inches was particularly strong. Otherwise we would have an overall comprehensive consideration of the products categorically.

54. From this perspective, the coordination and limits on competition that rest at the heart of this alleged conspiracy would be expected to have influenced prices across the product spectrum. Conspiratorial agreements regarding price targets for top-

¹²⁰ See CHU00030807.01E-CHU00030815E at 30807.02E.

¹²¹ See Deposition of Chih Chun-Liu Vol. 2 (Chunghwa), February 20, 2013 at 296:3-298:1.

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selling CRTs in their base configuration would both 1) readily signal a corresponding set of prices for other configurations of those same CRTs and 2) affect the prices of other CRTs.

2. Statistical Evidence

55. One can see the existence of this price structure through correlation coefficients over time between prices associated with pairings of top-selling CRTs. Figure 10 shows these correlation coefficients among the top selling sizes for CDTs and CPTs.¹²² The pair-wise correlation coefficients were generally above 0.9.
56. I examine price levels rather than price changes because as a statistical matter, changes in prices can be completely uncorrelated even where price levels track together very closely over time.¹²³ As discussed above, the relationship between target prices and actual prices involved much more than simple short-run dynamics. Price targets exerted some of their effect on current prices with a lag (i.e. not solely in a contemporaneous fashion) and the impact of target prices on current prices also operated through the effects of those targets on CRT prices in the prior quarter, which served, in turn to influence current quarter price levels.¹²⁴

¹²² I calculate the correlations using Fisher Matched-Model price indices. These indices are designed to measure price changes in a group of products accounting for changes in the composition of sales among the different products. In constructing this index, price changes for each CRT model were computed and averaged together based upon sales weights. See *Consumer Price Index Manual: Theory and Practice*, 2004, 4-9.

¹²³ As the Nobel committee once noted in connection with its award of the Nobel Prize in Economics, “Even if a statistical model based solely on difference terms can capture the short-run dynamics in a process, it has less to say about the long-run covariation of the variables. This is unfortunate because economic theory is often formulated in terms of levels and not differences.” Royal Swedish Academy of Sciences, “The Prize in Economics 2003 - Information for the Public.” http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2003/popular.html. Another recent article notes that “...by taking differences of the original level equation, one loses information that speaks to the relationship between the explanatory variables and GDP growth.” D. N. DeJong and M. Ripoll, “Tariffs and Growth: An Empirical Exploration of Contingent Relationships,” *The Review of Economics and Statistics* 88-4 (Nov. 2006): 625-640. Y.P. Mehra, “An Error-Correction Model of U.S. M2 Demand,” *Economic Review*, Federal Bank of Richmond (May/June 1991) explains that “... money demand functions estimated in first-difference form may be misspecified because such regressions ignore relationships that exist among the level variables.”

¹²⁴ Another problem with an analysis of price changes is that the underlying data contain quarter-to-quarter fluctuations that are solely related to measurement issues.

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Figure 10: Correlations Between Prices of Major CRT Sizes

	CDT			
	CDT 14	CDT 15	CDT 17	CDT 19
CDT 14	1			
CDT 15	0.988	1		
CDT 17	0.953	0.974	1	
CDT 19	0.937	0.872	0.986	1

	CPT							
	CPT 14	CPT 15	CPT 20	CPT 21	CPT 25	CPT 26	CPT 29	CPT 34
CPT 14	1							
CPT 15	0.996	1						
CPT 20	0.982	0.981	1					
CPT 21	0.949	0.957	0.965	1				
CPT 25	0.941	0.942	0.931	0.930	1			
CPT 26	0.938	0.949	0.976	0.957	0.885	1		
CPT 29	0.952	0.959	0.978	0.978	0.917	0.990	1	
CPT 34	0.964	0.973	0.987	0.977	0.928	0.991	0.992	1

Note: Quarterly Fisher Price Indexes by CRT type and size.

Sizes accounting for at least 3% of CDT or CPT shipments respectively.

CDT sizes collectively account for around 98% of CDT shipments.

CPT sizes collectively account for around 93% of CPT shipments.

Source: CRT Manufacturers' Sales Data

57. To see the manner in which prices for non-targeted CRTs moved with prices for targeted CRTs, I looked at correlation coefficients between prices for these two groups. Figure 11 lists CRTs (by size and type) with at least \$10 million in sales for which I found no targets. For each of those CRTs, I show the median correlation coefficient between its prices and prices paid for the targeted CRT of the same type. For 13 of the 18 CRTs shown in Figure 11, the correlation coefficients exceed 0.8. Weighted by sales dollars, the average correlation coefficient between prices for CRTs without targets and prices for a targeted CRT was 0.93.

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Figure 11: Correlations between Prices of Targeted and Other CRTs

Non-Targeted CRTs	Median Correlation With Targeted CRT Within Type	Sales (1995 - 2007) (Dollars)	
CDT 10	0.80	\$	104,602,768
CDT 12	-0.24		49,500,312
CDT 20	0.92		645,036,224
CDT 21	0.94		1,785,868,800
CPT 6	0.93		55,422,588
CPT 10	0.88		391,637,184
CPT 16	0.93		57,417,416
CPT 17	0.86		68,731,368
CPT 19	0.46		177,459,008
CPT 22	0.89		18,649,140
CPT 24	0.69		92,738,064
CPT 26	0.95		2,458,341,888
CPT 33	0.94		1,253,861,760
CPT 34	0.97		4,505,931,264
CPT 36	0.85		1,037,642,560
CPT 38	0.96		2,064,037,888
CPT 39	-0.37		44,923,320
CPT 40	0.61		70,894,096
Weighted Average	0.93		
Total Non-Targeted CRT Sales		\$	14,882,695,648
Total Targeted CDT Sales		\$	36,456,328,448
Total Targeted CPT Sales		\$	40,674,592,000

Note: Quarterly Fisher Price Indexes by CRT type and size.
Non-Targeted products with less than \$10 million sales omitted.
Correlation coefficients based on fewer than 7 quarters omitted.

Source: CRT Manufacturers' Sales Data;
Target Price Data from conspiracy notes.

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VII. Global Reach of the Alleged Conspiracy

58. The CRT industry was global.¹²⁵ In their internal reporting and analysis of market conditions, the conspirators typically referenced global demand conditions.¹²⁶ The antitrust authorities here in the U.S. and abroad have all recognized the activities at issue here as a global CRT conspiracy.¹²⁷ My review of conspiracy meeting documents shows the conspirators were cognizant of regional price levels and adjusted them to keep them in line with their global pricing strategy.¹²⁸
59. During the conspiracy period, the U.S. was one of the largest consumers of CRTs in the world.¹²⁹ Presumably then, a global price-fixing conspiracy would have impacted the U.S. and CRT prices in North America would track those elsewhere in the world. In fact, this is what I found. In Figure 12 and Figure 13, I compare prices paid during

¹²⁵ E.g., DisplaySearch 2007, DisplaySearch Q2' 07 Quarterly Global TV Shipment and Forecast Report, SEAI-CRT-00223186.

¹²⁶ See e.g., CHU00028685 - CHU00028686 at 686E (document recording a meeting between SDI and Chunghwa including a global CDT demand projection of 87.2 million in 1998); SDCRT-0087934 - SDCRT-0087937 at 7936E (meeting report between LPD and Toshiba forecasting global demand); and CHU00030559 - CHU00030562 at 0559.01E (meeting report with Chunghwa, Thai-CRT, Toshiba, SDI, and LPD reporting on global capacity and demand).

¹²⁷ The indictment charged "the former Chairman and Chief Executive Officer of Chunghwa Picture Tubes Ltd. for his participation in global conspiracies to fix prices of two types of cathode ray tubes (CRTs) used in computer monitors and televisions ... [and] conspiring with others to suppress and eliminate competition by fixing prices, reducing output and allocating market shares of color display tubes (CDTs) to be sold in the U.S. and elsewhere, beginning at least as early as Jan. 28, 1997, until at least as late as April 7, 2003." U.S. Department of Justice press release "Former Executive Indicted for His Role in Two Cathode Ray Tube Price-Fixing Conspiracies, Global Price-fixing Scheme Involves Tubes Used in Computer Monitors and Televisions," February 10, 2009 available at <http://www.justice.gov/opa/pr/2009/February/09-at-110.html>.

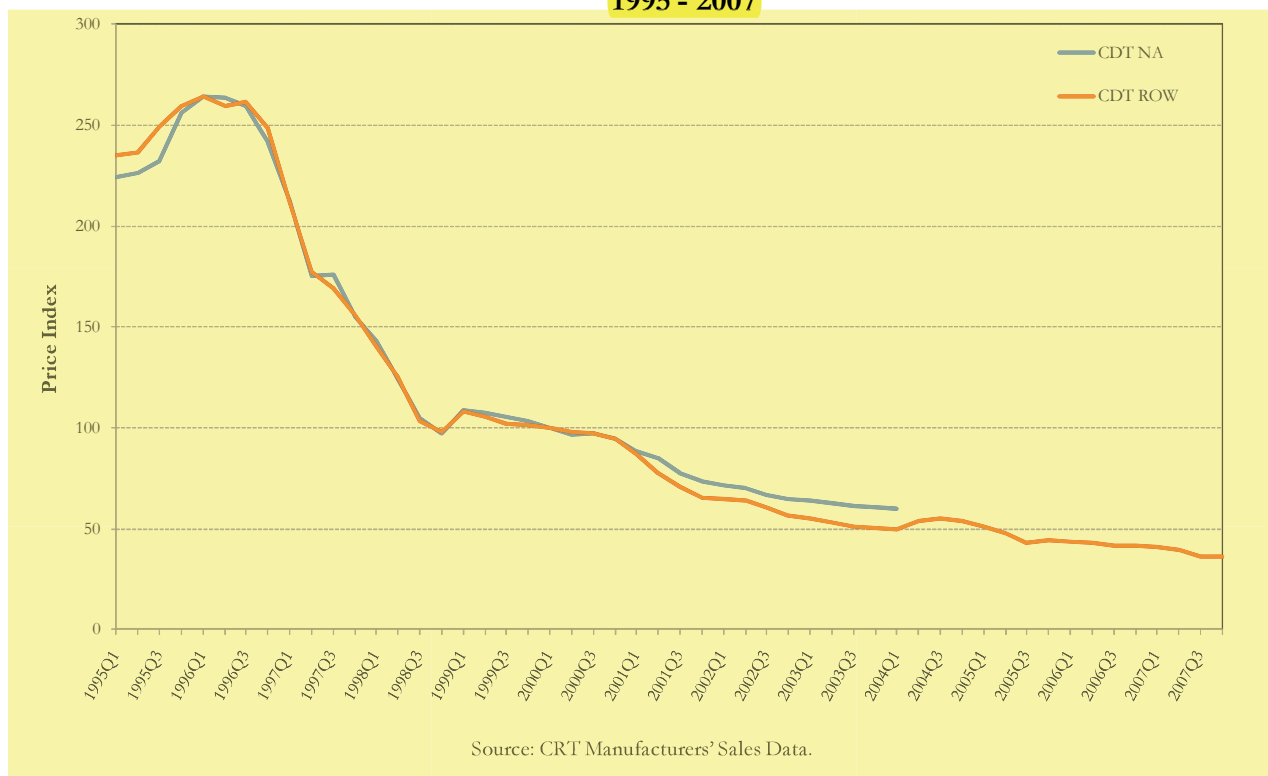
¹²⁸ For example, see CHU00029131E - CHU00029137E at 29131E: "The reasonable price in Europe will be a 116% level of S.E. Asia due to the additional cost, e.g. freight charge and import duties etc." CHU00029138E - CHU00029140 at 29138.02E: "even though the price for 14" tube in Europe had dropped dramatically due to decreased demand, right now demand for 14" tubes in Europe is hot and originally the difference between the tube price in the European and Asian markets was more than \$5.0, but now that the price in Asia has risen to around ITC \$35, the price target in Europe should be increased to above \$40."

¹²⁹ Defendants' transactional CRT sales data show that approximately 18 percent of the tubes (with known bill-to-country information) were sold to the U.S. customers, which was the second largest after China. According to DisplaySearch, between 1999 and 2007, North America had the largest share for CRT monitors sold at around 30 percent.

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the conspiracy by North American purchasers with prices paid by purchasers in foreign locations.¹³⁰

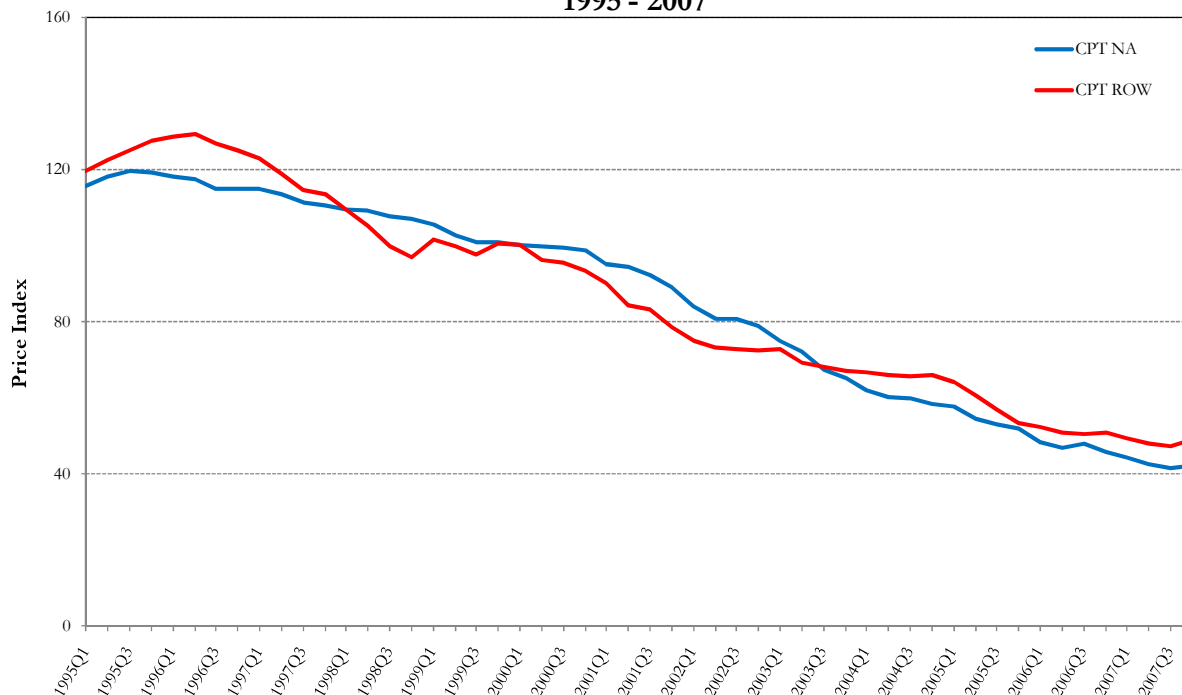
Figure 12
Prices of CDTs Sold to North America vs. the Rest of the World
Quarterly Fisher Matched-Model Price Indexes
1995 - 2007



¹³⁰ I identified sales as North American if the bill-to-country (or the ship-to-country if that is not available) is U.S., Mexico, or Canada. I note that the Defendants' data on the country of sales are missing for approximately a third of the transactions.

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Figure 13
Prices of CPTs Sold to North America vs. the Rest of the World
Quarterly Fisher Matched-Model Price Indexes
1995 - 2007



Source: CRT Manufacturers' Sales Data.

VIII. Entry Barriers

60. Economists recognize entry barriers as a factor that promotes successful maintenance of a conspiracy and, in that fashion, continuing broad impact on direct purchasers. During the Class Period, the CRT industry was characterized by large initial investments that could not readily be salvaged by exiting the industry and substantial excess capacity. Typical costs to set up a new CRT plant were between \$100-300 million.¹³¹ For example, in 1996, Daewoo invested \$150 million to build a CRT factory located in the northeastern province of France¹³² and LG Electronics built a

¹³¹ See SDCRT-0068880-SDCRT-0069081 at 8922, CPT factories are estimated to “cost between \$70- and \$332 million and take up two years to build” and the Deposition of Tatsuo Tobinaga (Panasonic), July 16, 2012 at 146:8-10 and 151:15-152:11. The cost for a manufacturing facility for a standard large product line was approximately 10 billion yen, or 120-130 million US dollars.

¹³² Korea Economic Daily, “Daewoo Electronics to Build a \$150 Mil. CRT Plant in France,” February 8,

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plant in Korea, for the production of 24 – 32 inch CRTs, which cost \$125 million to build and was expected to produce 1 million CRTs per year.¹³³ A new CRT plant also involved a significant time commitment. Time from start of building to a functional plant could be up to two years.¹³⁴ Additional investment in a plant was often necessary and expanding plant capacity was expensive.¹³⁵ Once incurred, most of this investment was sunk, meaning that very little could be recovered if the manufacturer decided to exit the business. There was little use for the factories outside of CRT production¹³⁶ and sale of the machinery and other equipment was difficult.¹³⁷

61. This created pressure to maintain high levels of capacity utilization.

A new CPT plant was estimated by producers to cost \$70- to \$332 million and take up to two years to build. Merely to increase capacity by adding current lines was estimated to cost up to \$160 million and take up to two years to complete. Once established, furthermore, it is difficult to be profitable, at least initially, due to what the staff report cites as ‘the need to operate plants at relatively high levels of capacity utilization.’ And it’s not

1996.

¹³³ Telecompaper, “LG Electronics to Invest in CRT Plant,” September 6, 1995, <http://www.telecompaper.com/news/lg-electronics-to-invest-in-crt-plant>, accessed March 22, 2012.

¹³⁴ Deposition of Tatsuo Tobinaga (Panasonic), July 16, 2012 at 146:11-147:8; SDCRT-0068880-SDCRT-0069081 at 8922.

¹³⁵ PHLP-CRT-051982- PHLP-CRT-052085 at 52078; EIN0017699- EIN0018075 at 17842; PR Newswire, “Zenith Breaks Ground For Expansion of Melrose Park Color Picture Tube Plant,” March 13, 1996, <http://www.thefreelibrary.com/ZENITH+BREAKS+GROUND+FOR+EXPANSION+OF+MELROSE+PARK+COLOR+PICTURE+TUBE...-a018086464>; PR Newswire, “Matsushita and Toshiba to Launch North American Operations of New CRT Joint Venture - New Company to Become Leading Large- Screen CRT Manufacturer in N. America,” March 28, 2003, <http://www.thefreelibrary.com/Matsushita+and+Toshiba+to+Launch+North+American+Operations+of+New+CRT...-a0131732577>.

¹³⁶ See Deposition of Nobuhiko Kobayashi (Hitachi), July 17, 2012 at 93:7-25. “Q: Do you know whether CRT production facilities can be used for manufacturing anything other than CRTs? A: Based on my understanding, that’s not possible.”

¹³⁷ See Deposition of Tatsuo Tobinaga (Panasonic), July 16, 2012 at 149:6-8. “Q:[] did you ever sell any equipment to third parties? A: We tried that, but it wasn’t successful.”

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even ‘relatively’; it’s high levels of capital utilization to be profitable.¹³⁸

62. However, this was an especially daunting prospect inasmuch as the CRT industry exhibited substantial excess capacity for most of the class period. By Toshiba’s calculations, CDT capacity equaled output in 1995, and thereafter exceeded output by as much as 35 percent in 1999.¹³⁹ Excess capacity in industries with high fixed costs (such as this one) can lead to dramatic price reductions under competitive conditions. That prospect can be a deterrent to would-be entrants.¹⁴⁰
63. Together, these conditions created entry barriers. Entry barriers promote widespread impact because they discourage new competitors (that might otherwise be attracted by inflated prices) who could de-stabilize the conspiracy or create pockets of competitive pricing.¹⁴¹ As one analyst described the industry:

The global CRT market is led primarily by Asian players. High entry costs and relatively low margins have deterred new players from entering the industry.¹⁴²

IX. Class-Wide Overcharges

A. CRT Overcharge Estimation Method

64. One method of examining the effect of a price-fixing conspiracy, widely recognized in the economic literature,¹⁴³ is to compare pricing during the period in which the

¹³⁸ Pat Magrath of Georgetown Economic Services speaking before the United States International Trade Commission, February 17, 2000, United States International Trade Commission, In the Matter of: Color Picture Tubes from Canada, Japan, Korea, and Singapore, SDCRT-0068880 - SDCRT-0069081 at 8922.

¹³⁹ TAEC-CRT-00065484.

¹⁴⁰ See F. M. Scherer and D. Ross, *Industrial Market Structure and Economic Performance* (Boston: Houghton Mifflin Company, 1990): 288 - 289.

¹⁴¹ “The easier entry into an industry (the lower entry barriers) the more difficult to sustain collusive prices. [] Overall, therefore, one should expect that the lower entry barriers (as determined by fixed entry costs that new firms would have to sink into the industry) the more difficult it will be to sustain collusion.” Massimo Motta, *Competition Policy: Theory and Practice* (Cambridge: Cambridge University Press, 2004).

¹⁴² PHLP-CRT-051982 - PHLP-CRT-052085 at 2067.

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conspiracy operated to pricing beforehand and (or) afterwards.¹⁴⁴ This is commonly referred to as a “before/after” analysis. There are various methods of comparison that can be employed in before/after analysis. In some cases, a simple comparison of price levels between periods in which the conspiracy operated with levels in which it did not operate may suffice. In other cases, other market factors in addition to the conspiracy may impact prices during the period in question. When that is likely, more sophisticated methods are used to isolate the effects of the conspiracy.

65. One such method is to employ regression analysis to simultaneously estimate the market relationships between prices, market demand and supply variables and the presence of the conspiracy. In essence, this kind of regression analysis provides an estimate of the impact of the alleged conspiracy on prices, holding constant the effects of other supply/demand factors. Regression analysis of this sort (often referred to as “reduced form” models or modeling) is widely employed by economists.¹⁴⁵
66. I understand there is evidence to suggest that the effectiveness of the alleged conspiracy decreased after Q1 2006. The last management level CDT meeting apparently occurred in March of 2006.¹⁴⁶ The last documented price target applied to Q4 2006.¹⁴⁷ The last of the documented meetings relating to production and capacity

¹⁴³ For a review of well-established methods of economic analysis used to estimate damages in price-fixing litigation see: J. M. Connor, “Forensic economics: an introduction with special emphasis on price fixing,” *Journal of Competition Law and Economics* 4.1 (2008): 31-59 and P. Davis and E. Garcés, *Quantitative techniques for competition and antitrust analysis* (Princeton: University Press, 2009): 347-381. See also D. L. Rubinfeld, “Antitrust Damages,” *Research Handbook on the Economics of Antitrust Law*, Einer Elhauge editor, November 21, 2009.

¹⁴⁴ In some cases, data may not be available for periods of time either before or after the alleged conspiracy that are completely free from its effects. However, the available data may allow one to compare periods in which the alleged conspiracy was fully effective with periods in which it was only partially so, in which case one can estimate a lower bound on the overcharges created by the alleged conspiracy.

¹⁴⁵ See e.g., J. F. Nieberding, “Estimating Overcharges In Antitrust Cases Using A Reduced-Form Approach: Methods and Issues,” *Journal of Applied Economics*, IX- 2 (Nov 2006): 361-380; H. H. Chouinard, and J. M. Perloff, “Gasoline Price Differences: Taxes, Pollution Regulation, Mergers, Market Power, and Market Conditions,” *The B.E. Journal of Economic Analysis & Policy*, 7-1 (Jan 2007): 1-26.

¹⁴⁶ Korean Fair Trade Commission Multi-Party Meeting Decision Report, No. 2011-019 (March 10, 2011): 24, 150 and 165.

¹⁴⁷ See CHU00030449E-CHU00030457E at 451.01E (Although this document indicates there was a target

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was also in 2006.¹⁴⁸ The CPT Glass Meetings did not occur during the period between March of 2006 and September 5, 2006.¹⁴⁹ A CPT Glass Meeting did occur in Thailand as late as February of 2007.¹⁵⁰ One was scheduled to occur in early April of 2007, but there is no evidence that it took place.

67. Based on these facts, I have been instructed to assume that the alleged conspiracy ceased effective operations as of Q1 2007. As a matter of economics, it would not be surprising to find that the aftermath of the alleged conspiracy had some continuing, albeit reduced, effect on prices through the end of the year while the competitive process was being fully restored. However, by using a “dynamic” regression model that allows for persistence in the effects of the conspiracy, Q2 through Q4 of 2007 still can be used as a post-conspiracy period.
68. The transaction data produced by the Defendants and co-conspirators spans the time period from 1992Q1 to 2011Q1. The prices that I used in this analysis are quarterly average prices created from that transactional data. These data reflect global CRT sales by ten of the Defendants and co-conspirators: Chunghwa, Hitachi, LG Electronics, LG Philips Display, Mitsubishi, Panasonic, Philips, Samsung, Thomson, and Toshiba. Each observation in the quarterly dataset is the quantity-weighted average price for a manufacturer’s CRT model.¹⁵¹ I have treated the periods before Q2 1995 and after Q1 2007 as non-conspiracy periods. I have treated Q2 1995 through Q2 2006 as a period during which the alleged conspiracy was in full force and effect. I have treated Q3 2006-Q1 2007 as a second conspiracy period. I have interacted both of these conspiracy indicators with indicators for CDT and CPT to estimate separate conspiracy effects for the two CRT types.

price, the price itself was ambiguous in the document; thus I excluded it from the target price analyses above.)

¹⁴⁸ I was able to locate two such documents for 2006 meetings – one that occurred in March 2006 (CHU00102752E) and another that occurred in November 2006 (MTPD-0580821).

¹⁴⁹ Testimony of S.J. Yang before the Japan Fair Trade Commission, April 8-9, 2008, 17; MTPD-0479714E.

¹⁵⁰ CHU00442517- CHU00442518; CHU00100529- CHU00100530.

¹⁵¹ This quarterly average price is found by dividing total revenue by total quantity of shipments for a particular model-manufacturer combination. Transaction data are aggregated to a quarterly level because the data for several of the variables included in the regression analysis are only available on a quarterly basis.

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69. There is reason here to believe that there was persistence in CRT prices, which is to say a current quarter's prices reflected not just that quarter's economic conditions, but also CRT prices from the prior quarter. To allow for this possibility, I included the previous quarter's prices as an explanatory variable for prices in the current quarter.¹⁵² I also included lagged CRT sales and lagged growth in CRT sales to reflect other supply-side effects, such as economies of scale in production or demand side effects, such as diminishing popularity. I included growth in industrial production and unemployment rate for the G7 countries to capture the effect of general economic activity levels and business cycles on demand for CRTs.¹⁵³ I also included a variable to account for the effects of competition from LCD technology.¹⁵⁴ Since Defendants and co-conspirators did not provide usable cost data, I included proxy variables to account for changes in production costs. Glass is a primary raw material in the production of CRTs.¹⁵⁵ Hence, I include a BLS price index for machine blown and pressed glass¹⁵⁶ as well as a CRT glass index from Bank of Korea¹⁵⁷ along with the growth in these indices relative to the previous quarter.

¹⁵² The inclusion of lagged prices implies that in calculating overcharges from the estimated coefficients, I have to account for the effect of the alleged conspiracy on the lagged prices in addition to its immediate effect. See e.g., Nieberding, J. F., "Estimating Overcharges In Antitrust Cases Using A Reduced-Form Approach: Methods and Issues," *Journal of Applied Economics* IX-2 (Nov 2006): 361-380

¹⁵³ I estimate the regression model with the variables identified above (other than the conspiracy indicator and LCD share) expressed in logarithmic form because of the economic plausibility associated with the reduced form relationships specified in this fashion. In this form, the estimated coefficients can be understood to reflect the percentage change in the dependant variable that is brought about by a one percent change in the associated explanatory variable.

¹⁵⁴ I used a measure of LCD sales share relative to the LCD and CRT display market by application, extrapolated in the period when the data are missing (pre-1999 for Monitors and pre-2004 for TVs). I estimate a separate coefficient of this variable for CDTs and CPTs.

¹⁵⁵ "The major upstream industry for color television picture tubes is glass for CRTs. With a trend toward larger picture tubes, glass represents a growing percentage of the value of materials, currently around 60 percent, up from 30 percent just a few years ago." John Kitzmiller, *Industry and Trade Summary Television Picture Tubes and Other Cathode-Ray Tubes*, (USITC Publication 2877, 1995): 4.

¹⁵⁶ The U.S. Department of Labor, Bureau of Labor Statistics' Producer Price Index for "Machine-made pressed and blown lighting, automotive, and electronic glassware."

¹⁵⁷ The Bank of Korea, Economic Statistics System, CPT Producer Price Index, http://ecos.bok.or.kr/EIndex_en.jsp.

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70. Figure 14 shows the regression results. As expected, the coefficient on the cost variable is positive indicating that prices rise with costs. The coefficient for LCD shipments is negative, indicating as expected that the growing popularity of LCDs exerted downward pressure on CRT prices. The estimated coefficients for the conspiracy indicators are positive (and highly significant as a statistical matter), indicating that the conspiracy elevated CRT prices.¹⁵⁸ The demand and supply factors included in this model explain almost all of the variability in CRT prices (the estimated equation has an R-Squared of 0.98).

¹⁵⁸ Because of the prospect that there are common elements in CRT pricing across models for a given manufacturer in a given quarter, with variability across models largely the result of the differences in configurations (as per the hedonic analysis described above), I have utilized a method for calculating standard errors that essentially treats the experience across all models sold by a given manufacturer within a given quarter as a single observation. This method, which produces what are known as “cluster-robust standard errors” (see A. Colin Cameron and Pravin K. Trivedi, *Microeconometrics Using Stata* (Texas: Stata Press, 2010): 84-85), does not change the regression coefficient estimates but does result in more conservative measures of statistical strength (i.e., larger standard errors and lower t-statistics).

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Figure 14: CRT Overcharge Regression

Variable	Coefficient	Clustered Std.-Error ⁹	T-value	P-value
(1)	(2)	(3)	(4)	(5)
<i>Dependant Variable</i>				
<u>Log(CRT Price)¹</u>				
Conspiracy Indicator 1 * CDT ^{2a}	0.0728 ***	0.025	2.962	0.003
Conspiracy Indicator 1 * CPT	0.0410 **	0.018	2.321	0.021
Conspiracy Indicator 2 * CDT ^{2b}	0.0264 *	0.016	1.689	0.092
Conspiracy Indicator 2 * CPT	0.0583 ***	0.012	4.707	0.000
Log CRT Price (-1)	0.2838 ***	0.058	4.889	0.000
Log CRT Quantity (-1)	-0.0060 ***	0.001	-4.368	0.000
Dlog CRT Quantity (-1)	0.0062 ***	0.001	6.677	0.000
Log BLS Glass Price (-1) ³	0.2238 **	0.105	2.140	0.033
Dlog BLS Glass Price	0.0609	0.134	0.455	0.649
Log BOK Glass Price (-1) ⁴	0.2630 ***	0.056	4.667	0.000
Dlog BOK Glass Price	0.3278 ***	0.083	3.961	0.000
LCD/(LCD+CRT) Sales (-1) * CDT ⁵	-0.3691 ***	0.141	-2.622	0.009
LCD/(LCD+CRT) Sales (-1) * CPT	-0.7427 ***	0.121	-6.158	0.000
LCD/(LCD+CRT) Sales (-1)^2 * CDT	-0.1443	0.140	-1.029	0.304
LCD/(LCD+CRT) Sales (-1)^2 * CPT	0.2103 ***	0.081	2.597	0.010
G7 Industrial Growth ⁶	0.0033	0.003	1.122	0.262
G7 Unemployment Rate ⁷	-0.0537 ***	0.010	-5.203	0.000
Trend	-0.0035 ***	0.001	-3.447	0.001
Trend-squared	0.0003 ***	0.000	5.278	0.000
Constant	3.0155 ***	0.580	5.202	0.000
Fixed Effects ⁸	YES			
Observations	27,666			
R-squared	0.976			
*** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level				

¹ Quarterly average transaction price weighted by quantity for each application-size-manufacturer-model code

^{2a} Conspiracy Indicator takes the value one from 1995Q2-2006Q2

^{2b} Conspiracy Indicator takes the value one from 2006Q3-2007Q1

³ Producer price index for machine-made pressed and blown lighting, automotive, and electronic glassware from BLS.

⁴ Producer price index of CRT glass from Bank of Korea

⁵ Total LCD/(LCD + CRT) sales ratio by application. Extrapolated in years with missing data.

⁶ Quarterly Growth Rate of Industrial Production for G7 member countries

⁷ Quarterly Unemployment Rate for G7 member countries

⁸ Fixed effects by application-size-manufacturer-model code are included.

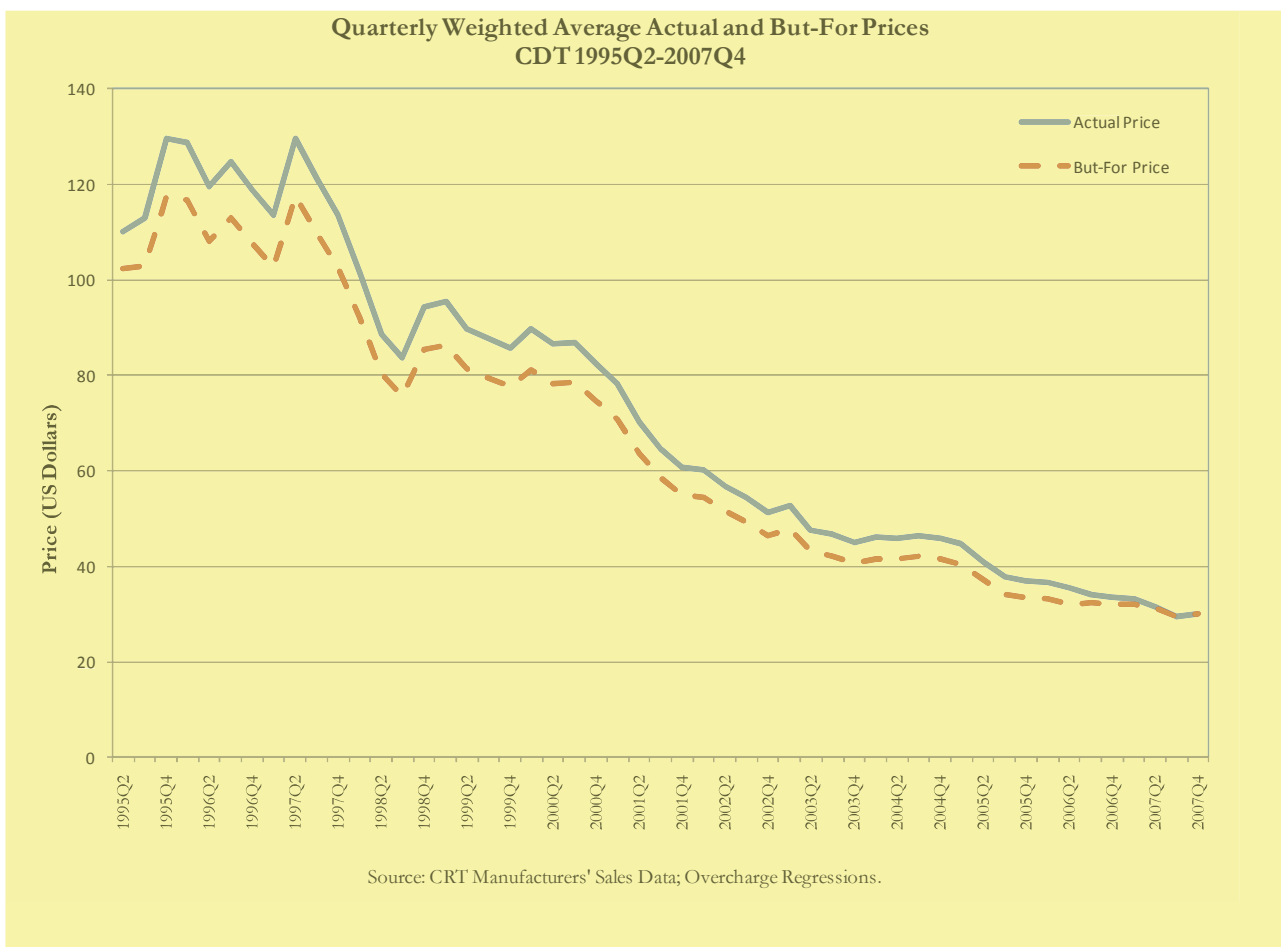
⁹ Cluster Robust Standard Errors by Manufacturer-Quarter.

Source: CRT Manufacturers' Sales Data; DisplaySearch Data; Bureau of Labor Statistics; OECD StatExtracts Database

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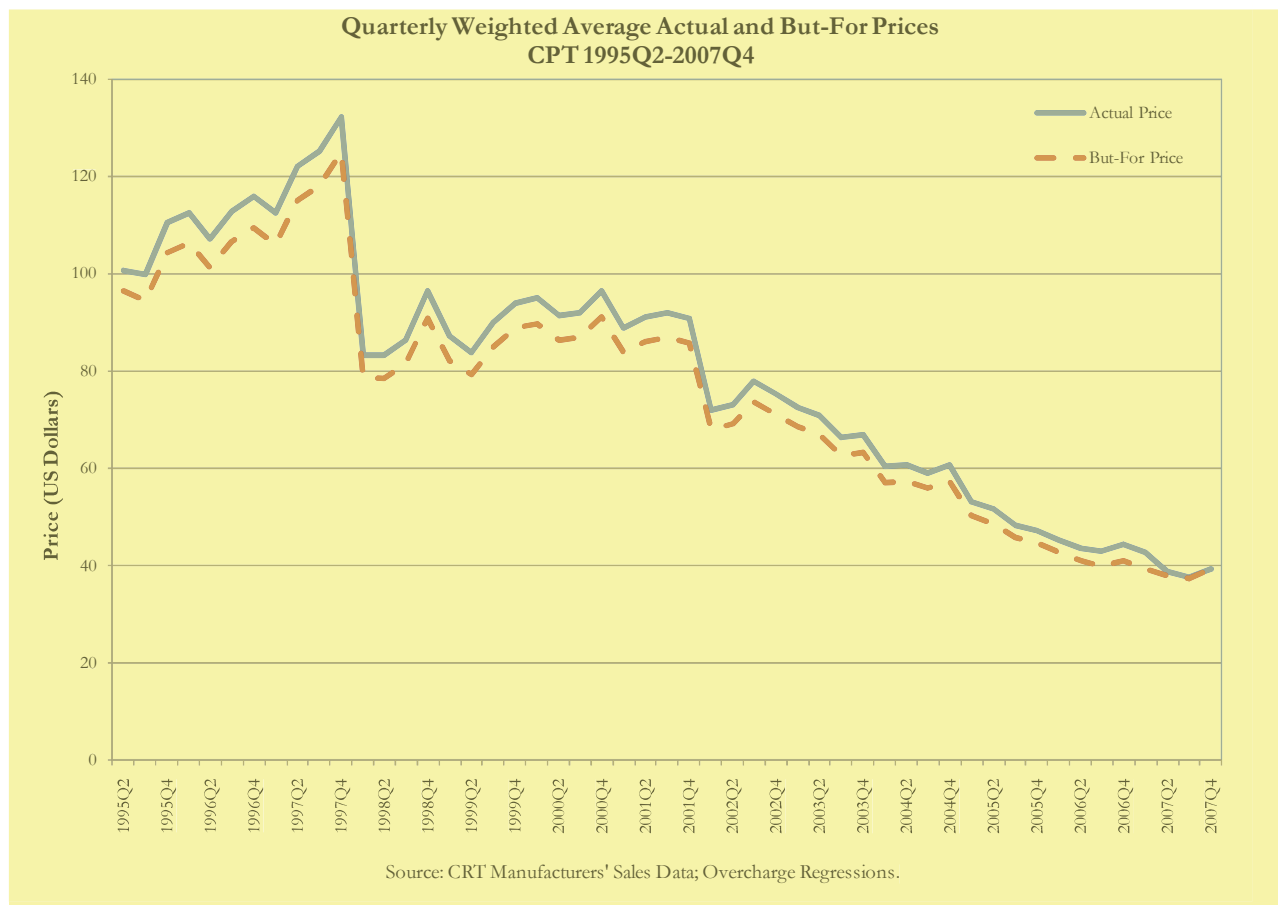
71. The regression model of overcharges can be used to estimate CRT prices that would have prevailed absent the conspiracy. Figure 15 and Figure 16 below show comparisons of average actual prices for CDTs and CPTs with the estimated but-for prices.

Figure 15: Actual and But-For CDT Prices



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Figure 16: Actual and But-For CPT Prices



72. The conspiracy effect estimated with this model grows during the initial quarters following the instigation of the alleged conspiracy and then declines towards the end of the alleged conspiracy period used in this estimate. Those percentages range from 0.1 percent to 10.5 percent for CDTs and from 0.2 percent to 8.3 percent for CPTs. The overcharges estimated by this model continue beyond the end of the period during which the alleged conspiracy was active to the end of 2007.

X. Overcharges for CRT Finished Products Purchased From Defendants and Co-Conspirators

73. I understand that the court has ruled that purchasers of CRT finished products from Defendants and co-conspirators may seek to recover CRT overcharges embedded in the costs of those finished products. In this section, I discuss economic and statistical evidence linking CRT finished product prices with CRT overcharges.

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A. Documentary Evidence Regarding CRT/CRT Product Price Relationships

74. Generally speaking, economics would lead one to expect that higher CRT prices would be reflected in higher prices for products that incorporate CRTs. First, of course, basic market economics involve a direct relationship between market prices and market supply costs. More than that, CRT producers who were conspiring to raise prices for their CRTs as a means for increasing the profits from that business would undermine that purpose by selling finished products including CRTs that did not embody the overcharge.
75. Conspirator documents reflect an understanding of this issue. For instance, a Chunghwa document discussing recently agreed upon price hikes for CRTs states that, “[W]e should also inform the customers of a possible second stage of price hike, so that they can take time to pass on to OEM customers.”¹⁵⁹ Meeting notes regarding a meeting between Chunghwa, Samsung, LG Electronics, and Orion state under “CDT price increase topic” that, “CPT indicated that the \$2 price increase this time was to facilitate monitor makers’ transfer of the CDT increase to customers.”¹⁶⁰
76. In addition, the trade press regularly discussed tube prices and their impact on finished products. A DisplaySearch report summarizes it as follows:
- To calculate the CRT TV price, we used the previous quarter’s tube prices to determine the current quarter’s CRT TV street prices due to the lag between tube shipment and TV shipment. Thus, tube price reductions are reflected in street prices one quarter later.¹⁶¹
77. Notes from a meeting between Samsung, LG Electronics, Orion, Philips, and Chunghwa state that:

¹⁵⁹ Chunghwa Picture Tubes, Ltd., March 25, 2004, Return-from-Abroad Trip Report, CHU00031240.01E - CHU00031247E at 1242E.

¹⁶⁰ CHU00031183.01E - CHU00031185E at 1184.02E.

¹⁶¹ DisplaySearch, March 12, 2006, Quarterly TV Cost & Price Forecast Model & Report, SDCRT-0002283 - SDCRT-0002362 at 2290.

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Conclusion: Mr. David indicated that recently the newspapers and media have repeatedly published information about the expected rise of CDT and Monitor prices. It is quite helpful for our CDT and Monitor makers to raise the prices even further in the future.¹⁶²

78. A report of a June 23, 1999 meeting attended by Samsung, Orion, LG Electronics and Philips states, "CPT - President Lin indicated that raising the price on 15" not only benefits 15" CDT makers, but also gives Monitor makers the opportunity to adjust the price to create some profit margin for their no-profit-base business..."¹⁶³

B. Statistical Analysis of CRT Prices and Finished Product Prices

79. The CRT is the most costly input used in making CRT monitors and TVs, accounting for 45 to 50 percent of the cost of manufacturing the finished product and up to 70% of the cost of materials.¹⁶⁴ I have conducted a regression analysis to examine the statistical relationship between CRT prices and CRT product prices. Here again, I employed a reduced form model of product price formation. The pricing data used in this analysis is similar in form to that employed in the overcharge regression described above. The dependent variable in the regression is the quarterly volume-weighted average of the finished product prices for a particular type and size.
80. As explanatory variables, I have included measures of CRT prices, one for CDTs and one for CPTs. For those variables, I used the average price for CRTs sold during the previous quarter that were of the size¹⁶⁵ and type used for the finished products in

¹⁶² CHU00030701.01E-CHU00030704.02E at 702.01E.

¹⁶³ CHU00030787.01E-CHU00030794E at 791.01E.

¹⁶⁴ Hitachi testified that CRTs account for approximately 45% to 50% of the manufacturing cost of finished monitors or TVs; see Deposition of Yasu Hisa Takeda Vol. 1 (Hitachi), July 12, 2012 at 11:21-12:24. LGE testified that CRTs accounted for between 60%-70% of the total component cost of CRT TVs; see Deposition of Yun Seok Lee (LG Electronics), July 11, 2012 at 72:14-18.

¹⁶⁵ TV screen sizes appear to be one inch smaller than the tubes used in them for smaller TV sizes and up to two inches smaller for larger TV sizes. Accordingly, I adjusted TV sizes to match with tubes one size up for TVs less than 27 inch and two sizes up for those larger than 27 inches.

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question. As additional explanatory variables, I included share of LCD in the display market for each type, G7 industrial production growth and the unemployment rate. For CDT products, I included growth in desktop PC shipments. For CPT products, I included a producer price index for TV tuners.

81. Figure 17 presents the results of this analysis. The relationship between CRT prices and CRT product prices is reflected in the coefficient associated with the CRT price variables. The coefficients indicate that increases in CRT prices resulted in increases in finished product prices both for CDTs and CPTs. For CPTs, a one percent price increase was associated, on average, with a 0.78 percent increase in the finished product price. For CDTs, a one percent increase in price was associated, on average, with a 0.72 percent increase in the finished product price. For example, if a \$100 CPT increased in price to \$101 (i.e. 1 percent), a \$200 TV containing that tube would be expected to increase in price by \$1.56 (i.e. 0.78 percent of the \$200 finished product price). If a \$100 CDT increased in price to \$101, a \$150 monitor containing that tube would be expected to increase in price by \$1.08 cents (i.e. 0.72 percent of the \$150).¹⁶⁶

¹⁶⁶ This analysis utilizes costs differences across time and across product types to identify the relationship between CRT costs and CRT finished product prices. By incorporating fixed effects in the regression model the relationship can be estimated using solely intertemporal changes in price. Although there may be other cost factors that vary with size besides the CRT price, such an approach is inferior because it greatly reduces the data with which to identify the pass-through relationship. However, as a check I estimated a version of this model that included fixed effects by application and size. Those results confirm that there is a positive and statistically significant pass-through relationship for both TV and monitor tubes.

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Figure 17: CRT Finished Product Regression

Variable	Coefficient	Clustered Std. Error ⁸	T-value	P-value
	(1)	(2)	(3)	(4)
<i>Dependant Variable</i>				
<u>Log(CRT Finished Product Price) ¹</u>				
Log CDT Tube Price (-1) * Monitor Indicator ²	0.721 ***	0.034	21.136	0.000
Log CPT Tube Price (-1) * TV Indicator ²	0.776 ***	0.017	46.748	0.000
LCD/(LCD+CRT) Sales (-1) * Monitor Indicator ³	-0.699 *	0.417	-1.676	0.094
LCD/(LCD+CRT) Sales (-1) * TV Indicator	3.515 ***	0.852	4.124	0.000
LCD/(LCD+CRT) Sales (-1) ^ 2 * Monitor Indicator	2.423 ***	0.651	3.723	0.000
LCD/(LCD+CRT) Sales (-1) ^ 2 * TV Indicator	-1.752 ***	0.653	-2.684	0.007
DLog Desktop Shipments x Monitor Indicator ⁴	0.038	0.220	0.170	0.865
Log TV Tuner PPI x TV Indicator ⁵	-0.011	0.034	-0.307	0.759
G7 Industrial Growth ⁶	-0.007	0.016	-0.454	0.650
G7 Unemployment Rate ⁷	0.143 ***	0.054	2.641	0.008
Trend	-0.018 ***	0.005	-3.871	0.000
Trend ^ 2	-0.002 ***	0.000	-4.715	0.000
Constant	1.193 ***	0.293	4.074	0.000
Observations	876			
R-squared	0.774			

*** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level.

¹ Quarterly average transaction price weighted by quantity for each application and size.

² Quarterly average transaction price of ITC tubes weighted by quantity for each application and size; matched with finished product prices based on application and same size for monitors; one size up for TVs less than 27 inch and two sizes up for larger TVs.

³ Total LCD/(LCD + CRT) sales ratio by application. Extrapolated in years with missing data.

⁴ Growth in Desktop PC World Wide Shipments interacted with an indicator for CDT.

⁵ Quarterly Production Price Index for TV Tuners interacted with an indicator for CPT.

⁶ Quarterly Growth Rate of Industrial Production for G7 member countries.

⁷ Quarterly Unemployment Rate for G7 member countries.

⁸ Standard Errors adjusted for clustering at the application-size and quarter level.

Source: CRT Manufacturers' Sales Data; DisplaySearch; Bank of Korea; U.S. BLS; OECD

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C. Class Overcharges

1. *Class CRT Sales and Damages*

82. Using the overcharge estimates provided above, the calculation of class-wide overcharges is a straightforward matter. The CRT sales data produced in this case, though incomplete in important respects,¹⁶⁷ allows me to calculate sales by Defendants and co-conspirators to Class Members each year. Starting with that information, I could then apply the overcharge percentages for each type of CRT in each year (derived from the overcharge model described above) to obtain the total overcharge amount associated with each type of CRT each year.

2. *Class CRT Finished Product Sales and Damages*

83. Similarly, I can use the Defendants' and co-conspirators' finished product transactions data to calculate Class finished product sales and damages for the sales recorded in the data.¹⁶⁸ I understand that the measure of damages on CRT finished product purchasers is the amount of the overcharge on the CRTs they contain. Accordingly, to calculate damages associated with CRT finished product purchasers, I would first compute the average annual dollar overcharge associated with the corresponding (by CRT type) CRT, by applying the overcharge percentage derived above to the CRT price. I would then take this average per-unit dollar amount of overcharge on the CRT and multiply it by the corresponding units of CRT finished product sales to the Class Members.¹⁶⁹ Adding those totals across products over time, I would obtain total overcharges for CRT finished products sold by the Defendants and co-conspirators.

¹⁶⁷ Some Defendants did not produce complete sales data. For example, Samsung did not produce any CRT sales data for years 1995 through 1997 and Hitachi apparently did not produce CRT sales data for its facilities in Singapore and Malaysia, as well as SEG Hitachi's facility in China. In addition, many of the transaction entries in Defendants' data do not specify the sales destination (in particular, whether it was shipped or billed to the U.S.) and therefore a sale to a Class Member.

¹⁶⁸ I understand that the CRT finished product data produced by Defendants and co-conspirators were limited to U.S. sales data.

¹⁶⁹ Formulaically: *CRT Finished Product Overcharge* = (*CRT Overcharge Percentage* * *CRT Price* * *CRT Finished Products Quantity Sold*.)

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I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief. This declaration was executed on the thirty-first day of October at Los Angeles, California.



Jeffrey J. Leitzinger
November 6, 2014

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APPENDIX A. CRT Manufacturers

84. **Chunghwa Entities:** Chunghwa Picture Tubes, Ltd., or “Chunghwa PT,” was established in 1971¹⁷⁰ by the Tatung Corporation and at one point was the largest domestic Taiwanese CRT manufacturing company.¹⁷¹ Chunghwa Picture Tubes (Malaysia), or “Chunghwa Malaysia,” is a Malaysian subsidiary of Chunghwa PT.¹⁷²
85. **Orion Entities:** Orion Electric Company, owned by the Daewoo group, was one of Korea’s largest CRT manufactures until Daewoo filed for bankruptcy in 2004.¹⁷³ In 1995 approximately 85% of its one billion sales was in color picture tubes and color display tubes.¹⁷⁴ Orion Electric was involved in many joint-ventures including a joint-venture with Daewoo Electronics in French CRT manufacturer Daewoo-Orion Société Anonyme, or “DOSA.”¹⁷⁵ Daewoo International Corporation, or “Daewoo International,” is a Korean corporation¹⁷⁶ that manufactured CRT Products. Daewoo Electronics Corporation, formerly Daewoo Electronics Company, or “Daewoo Electronics” is a South Korean subsidiary of Daewoo International¹⁷⁷ and part of the Daewoo Group.¹⁷⁸ Daewoo Electronics, along with its subsidiaries and affiliates,

¹⁷⁰ See Chunghwa Picture Tubes, Ltd., “Company Profile,” 2006, http://www.cptt.com.tw/cptt/english/index.php?option=com_content&task=view&id=13&Itemid=32.

¹⁷¹ M. Pecht and C.S. Lee, “Flat Panel Displays: What’s Going on in East Asia Outside Japan,” 2 and 16, <http://www.calce.umd.edu/general/AsianElectronics/Articles/DISPLAY.htm>.

¹⁷² Chunghwa Picture Tubes, Ltd. and Subsidiaries, “Consolidated Financial Statements for the Six-Month Periods Ended June 30, 2005 and 2006 with Review Report of Independent Auditors (Unaudited),” August 21, 2006, 9, http://www.cptt.com.tw/cptt/chinese/backend/files/CPTQRen_06Q2con.pdf.

¹⁷³ Bailey Somers, “Daewoo Granted Chapter 15 Protection,” Law360, October 23, 2006, <http://www.law360.com/articles/12214/daewoo-granted-chapter-15-protection>.

¹⁷⁴ M. Pecht and C. S. Lee, “Flat Panel Displays: What’s Going on in East Asia Outside Japan,” 7, <http://www.calce.umd.edu/general/AsianElectronics/Articles/DISPLAY.htm>.

¹⁷⁵ Ibid.

¹⁷⁶ Daewoo, “Overview,” <http://www.daewoo.com/english/company/overview.jsp>.

¹⁷⁷ Daewoo International Corporation, “Electronic Industry Division,” http://www.daewoo.com/english/business/electronics.jsp?nav=2_2_4 and Daewoo International Corporation, “Electronic Industry Division Team and Item,” http://www.daewoo.com/english/online/brand/item.jsp?d_id=11.

¹⁷⁸ Also includes Daewoo Electronics, Daewoo Telecom Company, Daewoo Corporation and Orion Electric Components Company.

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manufactured and sold both CRTs and CRT Products.¹⁷⁹ In December 1995, Daewoo, along with Toshiba Corporation and other entities, formed P.T. Tosummit Electronic Devices Indonesia, or “TEDI,” an Indonesian CRT manufacturer.¹⁸⁰

86. **Hitachi Entities:** Hitachi, Ltd. is the Japanese parent company for Hitachi brand CRT Products.¹⁸¹ Hitachi Displays was a Japanese subsidiary of Hitachi, Ltd. and formerly part of “Mobara Works of Hitachi, Ltd.,” that manufactured CRT Products.¹⁸² Hitachi America, Ltd. is an American subsidiary of Hitachi, Ltd. that sold and distributed CRT Products.¹⁸³ Hitachi Electronic Devices (USA), or “HEDUS,” is an American subsidiary of Hitachi, Ltd. that manufactured CRT Products.¹⁸⁴ Hitachi Asia, Ltd., or “Hitachi Asia” is a Singaporean subsidiary of Hitachi that manufactured CRT Products.¹⁸⁵ Shenzhen SEG Hitachi Color Display Devices, Ltd., or “Hitachi Shenzhen,” is a Chinese subsidiary of Hitachi, Ltd. that manufactured, sold and distributed CRT Products.¹⁸⁶
87. **Irico Entities:** Irico Group Corporation or “IGC” is the Chinese parent company for several subsidiaries that manufactured CRTs and CRT Products, including Irico

¹⁷⁹ M. Pecht and C. S. Lee, “Flat Panel Displays: What’s Going on in East Asia Outside Japan,” 7, <http://www.calce.umd.edu/general/AsianElectronics/Articles/DISPLAY.htm>.

¹⁸⁰ Toshiba, “Toshiba’s Joint Venture in Indonesia Starts Manufacturing Color Picture Tubes for TVs,” June 24, 1996, http://www.toshiba.co.jp/about/press/1996_06/pr2401.htm; Toshiba, “Toshiba Establishes Joint Venture in Indonesia to Manufacture and Market TV Color Picture Tubes,” March 10, 1995, http://www.toshiba.co.jp/about/press/1995_03/pr1001.htm.

¹⁸¹ Hitachi Displays, “History: from 1991 to Today,” http://www.hitachi-displays.com/en/company/history/2012176_18547.html.

¹⁸² Ibid.

¹⁸³ Hitachi in U.S.A., “Legacy Products,” <http://www.hitachi.us/products/legacy/>.

¹⁸⁴ Hitachi America, Ltd., “Products and Services: Consumer Electronics,” <http://www.hitachi-america.us/>.

¹⁸⁵ Hitachi, “Hitachi in Singapore,” <http://www.hitachi.com.sg/about/hitachi/index.html>. Hitachi, “Hitachi to Withdraw from CRTs for PC Monitors,” July 26, 2001, <http://www.hitachi.com/New/cnews/E/2001/0726b/>.

¹⁸⁶ Chinabidding.com, “Hitachi Subsidiary Sets Up Shenzhen Office,” March 02, 2006, <http://www.chinabidding.com/news.jhtml?method=detail&channelId=277&docId=528867>; Businessweek, “Company Overview of Shenzhen SEG Hitachi Color Display Devices Co., Ltd.,” <http://investing.businessweek.com/research/stocks/private/snapshot.asp?privcapId=38948436>.

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Group Electronics Col, Ltd., or “IGE,” and Irico Display Devices Co., Ltd., or “IDDC.”¹⁸⁷

88. **LG Electronics Entities:** LG Electronics, Inc., or “LGE” a South Korean entity, is a leading global manufacturer of consumer electronics products including televisions, computers and home appliances. LGE also produces and sells CPTs and CDTs.¹⁸⁸ In 2001 LGEI partnered¹⁸⁹ 50/50 with Koninklijke Philips Electronics N.V. to create LG Philips Displays, “LPD,” which encompassed both founders’ CRT production and sales activities.¹⁹⁰ LG Philips Displays became the independent company LP Displays International, Ltd. on April 1, 2007.¹⁹¹ LGE manufactured, sold and distributed CRTs and CRT Products, independently and through subsidiaries LG Electronics USA, or “LGEUSA,” LG Electronics Taiwan Taipei Co., Ltd., or “LGETT,” LP Displays International, Ltd., or “LP Displays.”
89. **Panasonic Entities:** Panasonic Corporation, known as Matsushita Electric Industrial Co, Ltd., or “MEI,” until 2008,¹⁹² is a Japanese entity most known for its Panasonic brand.¹⁹³ It is also the primary owner of the CRT manufacturing company MT Picture Display Co., Ltd., or “MTPD,” which began in 2003 as a joint venture with

¹⁸⁷ Irico Group Corporation, “About Irico,” 4, <http://www.ch.com.cn/english/txt.jsp?urltype=tree.TreeTempUrl&wbtreeid=1459>.

¹⁸⁸ PHLP-CRT-051982-PHLP-CRT-052085 at 52055-56.

¹⁸⁹ PHLP-CRT-051982-PHLP-CRT-052085 at 51998; A.A.M. Deterink, “Trustee’s First Report in the bankruptcy of LG.Philips Displays Holding B.V. and LG.Philips Displays Netherlands B.V.,” March 1, 2006, 6-8, http://deterinklive.com/nl/download/?file=workspace/uploads/faillissementsverslagen/lg_verslag1en_01032006.pdf.

¹⁹⁰ PHLP-CRT-051982-PHLP-CRT-052085 at 51998 and 52008-52009; Businessweek, “Company Overview of LG Philips Displays Korea Co., Ltd.,” <http://investing.businessweek.com/research/stocks/private/snapshot.asp?privcapId=6453976>.

¹⁹¹ Businessweek, “Company Overview of LP Displays,” <http://investing.businessweek.com/research/stocks/private/snapshot.asp?privcapId=1492342>; Tarr, Greg, “CRT Maker LG. Philips Displays Changes Names,” Twice, March 16, 2007, <http://www.twice.com/news/crt-maker-lgphilips-displays-changes-name-0>.

¹⁹² Matsushita Electric Industrial Co., Ltd., “Form 6-K,” June 02, 2008, 4.

¹⁹³ Panasonic, “Matsushita Electric (Panasonic) and TCL Holdings Sign Collaborative Agreement on Consumer Electronics,” April 9, 2002, <http://panasonic.net/ir/relevant/en020409-4/en020409-4.html>.

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Toshiba Corporation, but which MEI purchased entirely in 2007.¹⁹⁴ MEI sold and distributed CRT Products as well as CRTs.¹⁹⁵ Matsushita Electronics Corporation (Malaysia) Sdn Bhd., or “Matsushita Malaysia,” is a Malaysian subsidiary of MTPD, that sold and distributed MEI-manufactured CRT Products.¹⁹⁶ Panasonic Corporation of North America, or “PCNA,” is an American subsidiary of Panasonic Corporation that sold and distributed CRT Products.¹⁹⁷ Panasonic Consumer Electronics Co., or “PACEC,” is an American division¹⁹⁸ of PCNA that sold and distributed CRT Products.¹⁹⁹

90. **Philips Entities:** Koninklijke Philips Electronics N.V., or “Royal Philips,” is a Dutch electronics company, and co-owner²⁰⁰ of LPD with LG Electronics, as described above. Royal Philips manufactured CRT Products before the joint venture with LG Electronics with CPT sales accounting for a majority of total CRT revenue.²⁰¹ Subsidiaries of Royal Philips that manufactured, sold and distributed CRT Products include Philips Electronics Industries Ltd., or “PEIL,” Philips Electronics North America, or “Philips America,” Philips Consumer Electronics Co., or “PCEC,”

¹⁹⁴ SEC, “Panasonic Corporation: Form 20-F,” March 31, 2011, 25, http://www.sec.gov/Archives/edgar/data/63271/000119312511178201/d20f.htm#rom123323_46; Toshiba, “Closure of MT Picture Display (M) Sdn. Bhd.,” IR News, July 26, 2006, <http://www.toshiba.co.jp/about/ir/en/news/20060726.htm>.

¹⁹⁵ See CHU00028441.01E-CHU00028446E at 28444E and 28446E.

¹⁹⁶ Toshiba, “Closure of MT Picture Display (M) Sdn. Bhd.,” IR News, July 26, 2006, <http://www.toshiba.co.jp/about/ir/en/news/20060726.htm>.

¹⁹⁷ Panasonic USA, “Company Profile,” <http://www.panasonic.com/about/overview.asp>.

¹⁹⁸ Businessweek, “Company Overview of Panasonic Consumer Electronics Company,” <http://investing.businessweek.com/research/stocks/private/snapshot.asp?privcapId=7827825>.

¹⁹⁹ Panasonic USA, “Consumer Search Results: “CRT TVs,”” <http://shop.panasonic.com/search/?siteView=DEFAULT&q=crt%20tvs>, accessed January 9, 2012.

²⁰⁰ PHLP-CRT-051982 - PHLP-CRT-052085 at 51998; A.A.M. Deterink, “Trustee’s First Report in the bankruptcy of LG.Philips Displays Holding B.V. and LG.Philips Displays Netherlands B.V.,” March 1, 2006, 6-8, http://deterinklive.com/nl/download/?file=workspace/uploads/faillissementsverslagen/lg_verslag1en_01032006.pdf.

²⁰¹ PHLP-CRT-051982-PHLP-CRT-052085 at 052004 and 052053.

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Philips Electronics Industries (Taiwan), Ltd., or “Philips Taiwan,” and Philips da Amazonia Industria electronic Ltda., or “Philips Brazil.”²⁰²

91. **Samsung Entities:** Samsung Electronics Co., Ltd., or “SEC,” is a South Korean company that manufactured, sold and distributed of CRTs and CRT Products independently and through several subsidiaries including, Samsung Electronics America, Inc., or “SEAI,” Samsung SDI (Malaysia) Sdn Bhd., or “Samsung Malaysia,” Samsung SDI Co., Ltd., “Samsung SDI,” Samsung SDI America, Inc., or “Samsung America,” Samsung SDI Mexico S.A. de C.V., or “Samsung SDI Mexico,” Samsung SDI Brazil Ltd., or “Samsung SDI Brazil,” Shenzhen Samsung SDI Co., Ltd., or “Samsung SDI Shenzhen,” and Tianjin Samsung SDI Co., Ltd., or “Samsung SDI Tianjin.”²⁰³
92. **Thai CRT:** Thai CRT Company, Ltd., or “Thai CRT,” is a Thai CRT manufacturer, and, a subsidiary of Siam Cement Group.²⁰⁴
93. **Toshiba Entities:** Toshiba Corporation, or “TC,” is a Japanese CRT manufacturer and co-owner²⁰⁵ of Matsushita Toshiba Picture Display Co., Ltd., as previously described.²⁰⁶ Toshiba America, Inc., or “Toshiba America,” Toshiba America Consumer Products LLC, or “TACP,” Toshiba America Consumer Products, Inc., or “TACPI,” Toshiba America Electronic Components, Inc., or “TAEP,” and Toshiba

²⁰² Koninklijke Philips Electronics N.V., “Form 20-F: Exhibit 8,” December 31, 2011, 1, 9, 13 and 15, <http://www.sec.gov/Archives/edgar/data/313216/000095012311015455/u10449exv8.htm>.

²⁰³ Samsung Electronics Co., Ltd. and Subsidiaries, “Notes to the Consolidated Financial Statements,” 2012 Quarter 1, 14-18, http://www.samsung.com/us/aboutsamsung/ir/financialinformation/auditedfinancialstatements/download/s/consolidated/2012_con_quarter01_note.pdf. Samsung SDI, “Overseas Plants,” http://www.samsungsdi.com/intro/c_7_2_1_5P.html.

²⁰⁴ The Siam Cement Group, “Thai CRT Co., Ltd. (TCRT) Restructures Ownership,” February 16, 2005, http://www.scg.co.th/en/04investor_governance/03_investors_news/detail.php?ContentId=28.

²⁰⁵ Toshiba, “Closure of MT Picture Display (M) Sdn. Bhd.,” IR News, July 26, 2006, <http://www.toshiba.co.jp/about/ir/en/news/20060726.htm>.

²⁰⁶ Toshiba America, “Inside Toshiba,” http://www.toshiba.com/tai/about_us.jsp; Block, Ryan, “Toshiba killing CRTs and analog tuners,” Engadget, February 21, 2006, <http://www.engadget.com/2006/02/21/toshiba-killing-crts-and-analog-tuners/>; PHLP-CRT-051982-PHLP-CRT-052085 at 52068-52069.

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America Information Systems, Inc., or “TAIP,” are all American subsidiaries that manufactured, sold and distributed CRT Products.²⁰⁷ Toshiba Display Devices (Thailand) Company, Ltd., or “TDDT,” is a Thai subsidiary of TC that sold and distributed CRT Products.²⁰⁸

94. **Thomson:** Technicolor SA, known as Thomson SA until 2010,²⁰⁹ is a French technology company that manufactures products and provides services in the media and entertainment industries.²¹⁰ Thomson sold TVs in the US under the RCA brand.²¹¹ Thomson was a major manufacturer of CRTs for television sets until 2005 when it sold its CPT business.²¹² Most of Thomson’s manufacturing facilities were in low-cost countries such as China, Mexico, Poland and Thailand,²¹³ though it had manufacturing facilities in the US, as well.²¹⁴ A plant in Circleville, Ohio manufactured glass components for television picture tubes from 1987-2004.²¹⁵

²⁰⁷ Toshiba America, “Inside Toshiba,” http://www.toshiba.com/tai/about_us.jsp; Toshiba, “Toshiba in the Americas,” <http://www.toshiba.com/tai/americas/us.jsp>.

²⁰⁸ Toshiba, “Toshiba Display Devices (Thailand) Celebrates 7th Anniversary with Start of Full-Scale Manufacturing of Color Display Tubes,” August 29, 1995, http://www.toshiba.co.jp/about/press/1995_08/pr2901.htm.

²⁰⁹ “Thomson changes name to Technicolor, sells unit to Sony,” *telecompaper*, <http://www.telecompaper.com/news/thomson-changes-name-to-technicolor-sells-unit-to-sony--715404>.

²¹⁰ “Technicolor SA Full Description,” Reuters, <http://www.reuters.com/finance/stocks/companyProfile?symbol=TCLRY.PK>.

²¹¹ John Tagliabue, “Thomson and TCL To Join TV Units,” *The New York Times*, Nov 4, 2003.

²¹² Thomson never had activity in the CDT business. See Thomson, “United States Securities and Exchange Commission: Form 20-F,” Washington, DC, May 6, 2009, 7.

²¹³ Thomson, “United States Securities and Exchange Commission: 2002 Form 20-F,” Washington, DC, May 30, 2003, 43.

²¹⁴ “BEW Members at Thomson Inc. Face Shutdown of TV Tube and Glass Plants,” *IBEW Journal*, May 2004, <http://www.ibew.org/articles/04journal/0405/p11.htm>.

²¹⁵ “RCA Corporation,” Ohio EPA, <http://www.epa.ohio.gov/cdo/rca.aspx>.

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- Thomson Inc USA, was incorporated in 1987 and is based in Indiana.²¹⁶ A plant in Marion, Indiana assembled CRTs for Thomson from 1988 – 2004.²¹⁷
95. In 2003, Thomson moved its television production to TCL-Thomson Electronics (TTE), a joint venture with TCL Multimedia Technology Holdings. In early 2005, Thomson sold its Italian CRT plant to Videocon Group and by June 2005, Thomson sold all its CRT activities in China, Mexico and Poland to Videocon.²¹⁸
96. **Mitsubishi:** Mitsubishi Electric is a Japanese corporation with subsidiaries located throughout the world, including the US.²¹⁹ Mitsubishi Electric US Holdings, Inc. (also “Mitsubishi Electric America, Inc.”), the principal subsidiary of Mitsubishi Electric Corporation, is headquartered in Cypress, CA.²²⁰ During the class period, Mitsubishi manufactured CRTs in Mexico and Canada and produced television receivers in the US.²²¹ Starting in 1983 through 1998, Mitsubishi manufactured CPTs in a plant in Canada.²²² Also, from 1998 through 2003, Mitsubishi manufactured CDTs in Mexico through its subsidiary, Mitsubishi Electric America Inc.²²³

²¹⁶ “Company Overview of Technicolor USA, Inc.,” Bloomberg Businessweek, <http://investing.businessweek.com/research/stocks/private/snapshot.asp?privcapId=1526194>.

²¹⁷ “BEW Members at Thomson Inc. Face Shutdown of TV Tube and Glass Plants,” IBEW Journal, May 2004, <http://www.ibew.org/articles/04journal/0405/p11.htm>.

²¹⁸ Paul Semenza, “Thomson moving away from CRT TVs, but CRTs sticking around,” *DigiTimes*, July 21, 2005.

²¹⁹ “About Us - Locations Worldwide,” <http://www.mitsubishielectric.com/company/about/locations/index.html>.

²²⁰ “Company Overview of Mitsubishi Electric US Holdings, Inc.,” Bloomberg Businessweek, <http://investing.businessweek.com/research/stocks/private/snapshot.asp?privcapId=6450476>.

²²¹ John Kitzmiller, *Industry and Trade Summary Television Picture Tubes and Other Cathode-Ray Tubes*, (USITC Publication 2877, 1995): 4.

²²² Martin Kenney, “The Shifting Value Chain: The Television Industry in North America,” *Locating Global Advantage*, ed. Martin Kenney and Richard Florida (Stanford: Stanford University Press, 2003), 106. “Mitsubishi Electric Corporation – Company Profile, Information, Business Description, History, Background Information on Mitsubishi Electric Corporation,” Reference for Business, <http://www.referenceforbusiness.com/history2/47/Mitsubishi-Electric-Corporation.html>.

²²³ “Mitsubishi Electric To Manufacture CRTs In Mexico Through a New U.S. Subsidiary,” The Free Library, <http://www.thefreelibrary.com/Mitsubishi+Electric+To+Manufacture+CRTs+In+Mexico+Through+a+Nw+U.S....-a019756115>; “Mitsubishi to close CRT plant,” *Telecompaper*,

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97. **Joint Ventures:** MT Picture Display Co., Ltd., formerly Matsushita Toshiba Picture Display Co., Ltd., or “MTPD,” is a Japanese CRT manufacturer co-owned by Panasonic Corporation and Toshiba.²²⁴ However, MTPD became a full subsidiary of MEI in 2007.²²⁵ Beijing-Matsushita Color CRT Company, Ltd., or “BMCC,” is a Chinese manufacturer of CRTs, founded as a joint venture between Panasonic and Beijing, People’s Republic of China.²²⁶ LG. Philips Displays, or “LPD,” was a joint venture between LGEI and Koninklijke Philips Electronics N.V. as described above. LG. Philips Displays became the independent company LP Displays International, Ltd. on April 1, 2007.²²⁷

<http://www.telecompaper.com/news/mitsubishi-to-close-crt-plant--391794>.

²²⁴ Toshiba, “Closure of MT Picture Display (M) Sdn. Bhd.,” IR News, July 26, 2006, <http://www.toshiba.co.jp/about/ir/en/news/20060726.htm>.

²²⁵ Panasonic Corporation, “Panasonic Form 20-F,” March 31, 2011, http://www.sec.gov/Archives/edgar/data/63271/000119312511178201/d20f.htm#rom123323_46, 24.

²²⁶ Panasonic, “Panasonic History: 1987 Joint Venture Company Beijing established,” <http://panasonic.net/history/corporate/chronicle/1987-01.html>.

²²⁷ Businessweek, “Company Overview of LP Displays,” <http://investing.businessweek.com/research/stocks/private/snapshot.asp?privcapId=1492342>; Tarr, Greg, “CRT Maker LG. Philips Displays Changes Names,” *Twice*, March 16, 2007, <http://www.twice.com/news/crt-maker-lgphilips-displays-changes-name-0>.

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APPENDIX B. Competitor Communication About Production

Quarter	Bates Number	Attending or Referenced Manufacturers ¹	Product Type	Production Topic		
				Line Shutdown	Line Reduction	Information Exchange
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. 1995Q3	CHU00028873E	SDI, CPT	CPT			X
2. 1996Q2	CHU00028815E	SDI, CPT	CDT			X
3. 1996Q3	CHU00028803E	SDI, CPT	CPT			X
4. 1996Q4	CHU00028396E	CPT, SDI	CDT			X
5. 1996Q4	CHU00028786E	SDI, CPT, ORION	CDT			X
6. 1996Q4	CHU00028909E	CPT, LG	CDT			X
7. 1997Q1	CHU00028758E	SDI, CPT, HITACHI, LG, ORION, PHILIPS (PH)	CDT		X	
8. 1997Q1	CHU00028760E	SDI, LG, PHILIPS (PH), CPT	CDT			X
9. 1997Q1	CHU00028763E	CPT, SDI	CDT		X	
10. 1997Q1	CHU00028768E	SDI, CPT, PHILIPS (PH), ORION	CDT		X	
11. 1997Q2	CHU00028283E	TOSHIBA, CPT	CDT			X
12. 1997Q2	CHU00028725E	CPT, SDI, PHILIPS (PH), LG	CDT			X
13. 1997Q3	CHU00028707E	SDI, CPT	CDT			X
14. 1997Q4	CHU00020779E	LG, TOSHIBA, THAI-CRT, CPT	CPT			X
15. 1997Q4	CHU00028670E	SDI, CPT	CDT			X
16. 1997Q4	CHU00028674E	SDI, CPT	CDT		X	
17. 1997Q4	CHU00028677E	CPT, SDI	CDT			X
18. 1997Q4	CHU00028691E	SDI, PHILIPS (PH), CPT	CDT			X
19. 1998Q1	CHU00028666E	SDI, CPT	CDT	X		X
20. 1998Q1	CHU00028955E	CPT, ORION	CDT			X
21. 1998Q2	CHU00028642E	CPT, SDI	CDT		X	X
22. 1998Q2	CHU00028952E	CPT, ORION	CDT			X
23. 1998Q2	CHU00028638E	CPT, SDI	BOTH		X	
24. 1998Q3	CHU00029262E	CPT, SDI, LG, ORION, THAI-CRT, TOSHIBA	CPT		X	
25. 1998Q3	CHU00030670E	CPT, SDI, LG, ORION, THAI-CRT	CPT		X	X
26. 1998Q4	CHU00029259E	CPT, SDI, LG, ORION, THAI-CRT	CPT		X	X
27. 1998Q4	CHU00030684E	CPT, PHILIPS (PH), SDI, ORION, BMCC, IRICO	CDT			X
28. 1998Q4	SDCRT-0086434E	SDI, CPT, LG, PHILIPS (PH), ORION	CDT		X	
29. 1998Q4	SDCRT-0086449E	CPT, PHILIPS (PH), ORION, LG, SDI	CDT		X	X
30. 1998Q4	CHU00028532-33E	CPT, MITSUBISHI	BOTH			X
31. 1999Q1	CHU00030731E	CPT, SDI, LG, ORION, PHILIPS (PH)	CDT		X	
32. 1999Q1	SDCRT-0086563E	LG, CPT, ORION, SDI, PHILIPS (PH)	CDT		X	X
33. 1999Q1	SDCRT-0086569-70	LG, SDI, ORION, CPT, PHILIPS (PH)	CDT		X	
34. 1999Q2	CHU00029214	CPT, SDI, LG, ORION	CPT		X	
35. 1999Q2	TSB-CRT-00045123	TOSHIBA, CPT	CPT		X	
36. 1999Q2	CHU00030745E	CPT, PHILIPS (PH), SDI, ORION, IRICO, BMCC	CDT			X
37. 1999Q2	CHU00030787E	CPT, SDI, PHILIPS (PH), ORION, LG	CDT		X	
38. 1999Q2	SDCRT-0086593E	CPT, PHILIPS (PH), ORION, LG, SDI	CDT		X	
39. 1999Q2	SDCRT-0086597E	PHILIPS (PH), CPT, SDI, ORION, LG	CDT			X
40. 1999Q2	SDCRT-0086605E	CPT, PHILIPS (PH), ORION, LG, SDI	CDT		X	
41. 1999Q2	SDCRT-0086632E	CPT, PHILIPS (PH), ORION, LG, SDI	CDT		X	X
42. 1999Q2	SDCRT-0086641E	CPT, PHILIPS (PH), ORION, LG, SDI	CDT		X	X
43. 1999Q2	SDCRT-0086584E	SDI, CPT, PHILIPS (PH)			X	X
44. 1999Q3	CHU00029245E	CPT, SDI, LG, ORION, THAI-CRT	CPT			X
45. 1999Q3	CHU00028441E	CPT, MEC	CDT			X
46. 1999Q3	CHU00030809E	CPT, SDI, LG, ORION, PHILIPS (PH)	CDT		X	
47. 1999Q3	CHU00030823E	CPT, SDI, BMCC, ORION, IRICO, PHILIPS (PH)	CDT			X
48. 1999Q3	CHU00030835E	CPT, SDI, LG, ORION, PHILIPS (PH)	CDT		X	
49. 1999Q3	CHU00030851E	CPT, TOSHIBA	CDT			X
50. 1999Q3	CHU00030855E	CPT, SDI, LG, ORION, PHILIPS (PH)	CDT		X	X

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Quarter	Bates Number	Attending or Referenced Manufacturers ¹	Product Type	Production Topic		
				Line Shutdown	Line Reduction	Information Exchange
(1)	(2)	(3)	(4)	(5)	(6)	(7)
51. 1999Q3	SDCRT-0086649E	CPT, LG, PHILIPS (PH), SDI, ORION	CDT		X	
52. 1999Q3	SDCRT-0086672E	PHILIPS (PH), IRICO, SDI, ORION, CPT, BMCC	CDT			X
53. 1999Q3	SDCRT-0086691	CPT, SDI, LG, ORION, PHILIPS (PH)	CDT		X	
54. 1999Q3	SDCRT-0086698E	PHILIPS (PH), ORION, IRICO, CPT, SDI	CDT			X
55. 1999Q3	CHU00029175E	CPT, SDI, LG, ORION, PHILIPS (PH)	BOTH			X
56. 1999Q3	CHU00029179E	CPT, SDI, LG, ORION, THAI-CRT	BOTH			X
57. 1999Q4	CHU00029171E	CPT, SDI, LG, ORION, THAI-CRT	CPT		X	X
58. 1999Q4	CHU00030888E	CPT, SDI, PHILIPS (PH), ORION, LG	CDT			X
59. 1999Q4	SDCRT-0086703E	CPT, PHILIPS (PH), SDI	CDT		X	
60. 2000Q1	CHU00029138E	CPT, SDI, LG, ORION, PHILIPS (PH)	CPT			X
61. 2000Q1	CHU00029144E	CPT, SDI, LG, ORION, PHILIPS (PH), THAI-CRT	CPT			X
62. 2000Q1	CHU00029147E	CPT, SDI, LG, ORION, PHILIPS (PH), THAI-CRT	CPT			X
63. 2000Q1	CHU00030720E	CPT, SDI, PHILIPS (PH), LG, ORION	CDT		X	
64. 2000Q1	CHU00030960E	CPT, SDI, LG, ORION, PHILIPS (PH)	CDT		X	X
65. 2000Q1	CHU00030965E	CPT, SDI, LG, ORION, PHILIPS (PH)	CDT		X	
66. 2000Q1	CHU00030973E	CPT, SDI, IRICO, PHILIPS (PH)	CDT			X
67. 2000Q1	CHU00030985E	CPT, SDI	CDT	X		
68. 2000Q2	CHU00029110E	CPT, PHILIPS (PH), IRICO	CPT			X
69. 2000Q2	CHU00029131E	CPT, SDI, LG, ORION, PHILIPS (PH)	CPT		X	
70. 2000Q2	CHU00031002E	CPT, SDI, IRICO, BMCC, LG, PHILIPS (PH), ORION	CDT		X	X
71. 2000Q2	CHU00031006E	CPT, SDI, LG, ORION, PHILIPS (PH)	CDT		X	
72. 2000Q2	CHU00031010E	CPT, SDI, LG, ORION, PHILIPS (PH)	CDT		X	
73. 2000Q3	CHU00029108E	CPT, SDI, LG, ORION, PHILIPS (PH)	CPT			X
74. 2000Q3	CHU00031056E	CPT, SDI, LG, ORION, PHILIPS (PH)	CPT			X
75. 2000Q3	CHU00031040E	CPT, SDI, IRICO, BMCC, LG, PHILIPS (PH), ORION	CDT		X	X
76. 2000Q3	CHU00031044E	CPT, SDI, IRICO, BMCC, LG, PHILIPS (PH), ORION	CDT		X	X
77. 2000Q3	CHU00031047E	CPT, TOSHIBA	CDT			X
78. 2000Q4	CHU00031075E	CPT, SDI, LG, ORION, PHILIPS (PH)	CDT		X	X
79. 2000Q4	SDCRT-0087393E-98E	LG, CPT, PHILIPS (PH), ORION, SDI, TOSHIBA	CDT		X	X
80. 2001Q1	SDCRT-0087662E	PHILIPS (PH), THOMSON, SDI, ORION	CPT			X
81. 2001Q1	CHU00031111E	CPT, SDI, LG, ORION, PHILIPS (PH)	CDT		X	X
82. 2001Q1	SDCRT-0087405-E07E	CPT, LG, PHILIPS (PH), ORION, SDI	CDT		X	
83. 2001Q2	CHU00036414E	CPT, SDI, LG, ORION	CPT			X
84. 2001Q2	SDCRT-0087340E-42E	BMCC, CPT, LG, IRICO, PHILIPS (PH), THOMSON, SDI, HITACHI	CPT	X	X	X
85. 2001Q2	SDCRT-0087667E	PHILIPS (PH), THOMSON, SDI, ORION	CPT			X
86. 2001Q2	CHU00024554E	SDI, LG, ORION, PHILIPS (PH), CPT	CDT		X	
87. 2001Q2	CHU00031142E	CPT, SDI, LG, ORION, PHILIPS (PH)	CDT	X	X	X
88. 2001Q2	CHU00660306-11E	SDI, LG, ORION, CPT	CDT	X	X	X
89. 2001Q2	CHU00660395	PHILIPS (PH), CPT, LG, ORION, SDI	CDT		X	
90. 2001Q3	CHU00036384E	CPT, SDI, LG, ORION	CPT			X
91. 2001Q3	CHU00036386E	CPT, SDI, LG, ORION, THAI-CRT	CPT		X	X
92. 2001Q3	SDCRT-0087664	PHILIPS (PH), THOMSON, SDI, ORION	CPT		X	
93. 2001Q3	CHU00031150E	CPT, SDI, LG, ORION	CDT		X	X
94. 2001Q3	CHU00660408-418	SDI, LG, ORION, CPT, PHILIPS (PH)	CDT	X	X	
95. 2001Q3	CHU00660454	SDI, LG, PHILIPS (PH), ORION, CPT	CDT	X	X	
96. 2001Q4	CHU00036390E	CPT, SDI, LG, ORION	CPT		X	
97. 2001Q4	CHU00036408E	CPT, SDI, LPD, ORION	CPT			X
98. 2001Q4	CHU00028589E	CPT, SDI, LPD			X	
99. 2002	CHU00660369	LPD, SDI, ORION, CPT	CDT			X
100. 2002Q1	CHU00036392E	CPT, SDI, LPD, ORION	CPT			X
101. 2002Q1	CHU00036394E	CPT, SDI, LPD, ORION	CPT			X
102. 2002Q1	CHU00660419-425	SDI, LPD, ORION, CPT	CDT	X		
103. 2002Q2	CHU00660373-382	CPT, LPD, ORION, SDI	CPT		X	
104. 2002Q3	CHU00660468-475	CPT, LPD, ORION, SDI	CDT			X
105. 2002Q3	CHU00660487-500	CPT, LPD, SDI, ORION	CDT	X		X
106. 2002Q3	CHU00660194E	SDI, LPD, ORION	BOTH			X
107. 2002Q4	CHU00125162E	SDI, LPD, CPT	CPT			X
108. 2002Q4	SDCRT-0006632E-33E	SDI, THOMSON, ORION	CPT			X
109. 2002Q4	CHU00660476-486	CPT, LPD, SDI, ORION, TOSHIBA	CDT			X
110. 2002Q4	SDCRT-0087427-29	CPT, ORION, SDI, LPD	CDT			X

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Quarter	Bates Number	Attending or Referenced Manufacturers ¹	Product Type	Production Topic		
				Line Shutdown	Line Reduction	Information Exchange
(1)	(2)	(3)	(4)	(5)	(6)	(7)
111. 2003Q1	CHU00020661E	CPT, THAI-CRT, MEC, TOSHIBA	CDT			X
112. 2003Q1	CHU00031804E	CPT, SDI	CDT	X		
113. 2003Q1	SDCRT-0006041E	SDI, MITSUBISHI	CDT			X
114. 2003Q2	CHU00030547E	CPT, MTPD, SDI, LPD, THAI-CRT	CPT			X
115. 2003Q2	MTPD-0423675E	SDI, MTPD, LPD	CPT			X
116. 2003Q2	SDCRT-0088635_CT_715E	LPD, SDI, CPT, THAI-CRT, TOSHIBA	CPT			X
117. 2003Q2	CHU00660213E	LPD, SDI, CPT	CDT	X		X
118. 2003Q2	CHU00660539-548	CPT, LPD, SDI	CDT	X	X	
119. 2003Q2	CHU00660549-560	CPT, LPD, SDI	CDT	X	X	X
120. 2003Q2	CHU00660561-574	CPT, LPD, SDI	CDT	X		
121. 2003Q3	MTPD-0576483E	TOSHIBA, MTPD, THOMSON	CPT			X
122. 2003Q3	CHU00031190E	CPT, LPD, SDI	CDT	X		X
123. 2003Q3	CHU00031194E	CPT, LPD, SDI	CDT	X		X
124. 2003Q3	CHU00660575-585	CPT, LPD, SDI	CDT	X	X	
125. 2003Q3	CHU00660586-593	CPT, LPD, SDI	CDT	X	X	
126. 2003Q3	CHU00660594-605	CPT, LPD, SDI	CDT	X	X	
127. 2003Q3	CHU00660606-615	CPT, LPD, SDI	CDT	X	X	
128. 2003Q4	CHU00030071E	CPT, MTPD, SDI, LPD, THAI-CRT	CPT			X
129. 2003Q4	SDCRT-0088635	LPD, SDI, THOMSON	CPT		X	
130. 2003Q4	SDCRT-0088635_CT_839	SDI, LPD, CPT	CPT			X
131. 2003Q4	CHU00031214E	CPT, LPD, SDI	CDT	X		
132. 2003Q4	CHU00031221E	CPT, LPD, SDI	CDT	X		X
133. 2003Q4	CHU00660633-643	CPT, LPD, SDI	CDT	X		
134. 2003Q4	CHU00660644-655	CPT, LPD, SDI	CDT	X		
135. 2003Q4	CHU00660656-662	CPT, LPD, SDI	CDT	X		
136. 2004Q1	CHU00030036E	CPT, MTPD, SDI, LPD, THAI-CRT	CPT			X
137. 2004Q1	MTPD-0423651E	CPT, SDI, MTPD, THAI-CRT, LPD	CPT			X
138. 2004Q1	CHU00031227E	CPT, LPD, SDI	CDT	X		
139. 2004Q1	CHU00660663-670	CPT, LPD, SDI	CDT	X		
140. 2004Q1	SDCRT-0088846	CPT, LPD, SDI	CDT	X		
141. 2004Q2	CHU00030005E	CPT, MTPD, SDI, LPD, THAI-CRT	CPT			X
142. 2004Q2	CHU00030530E	CPT, MTPD, SDI, LPD, THAI-CRT	CPT			X
143. 2004Q2	MTPD-0426088E	SDI, LPD, CPT, THAI-CRT, MTPD	CPT			X
144. 2004Q2	CHU00030020E	CPT, MTPD, SDI, LPD, THAI-CRT	BOTH			X
145. 2004Q3	CHU00030506E	CPT, MTPD, SDI, LPD, THAI-CRT	CPT			X
146. 2004Q3	MTPD-0607598	MTPD, LPD, SDI	CPT			X
147. 2004Q3	CHU00660717-727	CPT, LPD, SDI	CDT	X	X	
148. 2004Q3	CHU00660728-735	CPT, LPD, SDI	CDT	X		
149. 2004Q3	SDCRT-0090328	CPT, LPD, SDI	CDT		X	
150. 2004Q3	SDCRT-0090339-44	SDI, LPD, CPT	CDT	X		
151. 2004Q4	CHU00029999E	CPT, MTPD, SDI, LPD, THAI-CRT	CPT			X
152. 2004Q4	MTPD-0580798	MTPD, LPD, SDI	CPT			X
153. 2004Q4	SDCRT-0090197E	LPD, CPT, MTPD, THAI-CRT, SDI	CPT			X
154. 2004Q4	CHU00071480E	CPT, LPD, SDI	CDT	X		
155. 2004Q4	CHU00660736-740	CPT, LPD, SDI	CDT	X		
156. 2004Q4	SDCRT-0090233	CPT, LPD, SDI	CDT	X		
157. 2004Q4	SDCRT-0090233_CT_355E	SDI, LPD, CPT	CDT			X
158. 2005Q1	SDCRT-0091353E	LPD, MTPD, SDI	CPT			X
159. 2005Q1	SDCRT-0091491-504	THOMSON, LPD, SDI	CPT		X	
160. 2005Q1	CHU00647932-943	CPT, LPD, SDI	CDT	X		
161. 2005Q1	SDCRT-0091027_616E	CPT, LPD, SDI	CDT	X	X	
162. 2005Q1	SDCRT-0091599E	CPT, LPD, SDI	CDT	X		X

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Quarter	Bates Number	Attending or Referenced Manufacturers ¹	Product Type	Production Topic		
				Line Shutdown	Line Reduction	Information Exchange
(1)	(2)	(3)	(4)	(5)	(6)	(7)
163. 2005Q1	SDCRT-0091605-15	CPT, LPD, SDI	CDT	X		
164. 2005Q2	CHU00029971E	CPT, MTPD, SDI, LPD, THAI-CRT	CPT			X
165. 2005Q2	CHU00030497E	CPT, MTPD, SDI, LPD, THAI-CRT	CPT			X
166. 2005Q2	MTPD-0400573	MTPD, LPD, SDI	CPT			X
167. 2005Q2	SDCRT-0091364E	LPD, MTPD, CPT, THAI-CRT, SDI	CPT			X
168. 2005Q2	SDCRT-0091372E	LPD, MTPD, CPT, THAI-CRT, SDI	CPT			X
169. 2005Q2	SDCRT-0091374E	LPD, MTPD, CPT, THAI-CRT, SDI	CPT			X
170. 2005Q2	CHU00014204E	CPT, LPD, SDI	CDT	X		
171. 2005Q2	SDCRT-0091634	CPT, LPD, SDI	CDT	X		
172. 2005Q2	SDCRT-0091643E-47E	CPT, LPD, SDI	CDT	X		X
173. 2005Q2	SDCRT-0091661-67	CPT, LPD, SDI	CDT	X		X
174. 2005Q3	MTPD-0423645	MTPD, LPD, SDI	CPT			X
175. 2005Q4	CHU00030468E	CPT, MTPD, SDI, LPD, THAI-CRT	CPT			X
176. 2005Q4	SDCRT-0091400E	LPD, MTPD, CPT, THAI-CRT, SDI	CPT			X
177. 2005Q4	CHU00014218E	LPD, CPT, SDI, ORION	CDT			X
178. 2006Q1	MTPD-0580821	MTPD, LPD, SDI	CPT			X
179. 2006Q4	CHU00102752E	CPT, BMCC, IRICO, LPD, SDI, THOMSON, HITACHI	CPT			X

¹Attending manufacturer when available. If not listed, referenced manufacturers were used.



Dr. JEFFREY J. LEITZINGER
Managing Director
Los Angeles, California
Tel: 213 624 9600

EDUCATION

Ph.D., Economics, University of California, Los Angeles
M.A., Economics, University of California, Los Angeles
B.S., Economics, Santa Clara University

WORK EXPERIENCE

Econ One Research, Inc., President, July 1997 to date
Founded *Econ One Research, Inc.*, 1997

Micronomics, Inc., President and CEO, 1994-1997
Micronomics, Inc., Executive Vice President, 1988-1994
Cofounded *Micronomics, Inc.*, 1988

National Economic Research Associates, Inc. 1980-1988
(Last position was Senior Vice President and member of the Board of Directors)

California State University, Northridge, Lecturer, 1979-1980

AREAS OF EXPERTISE

Has offered expert testimony regarding:

- Competition economics
- Commercial damages
- Econometrics and statistics
- Intellectual property
- Valuation

Dr. Jeffrey J. Leitzinger
Managing Director

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INVITED PRESENTATIONS

Corporations & Cartels: Should You Be A Plaintiff?, *American Bar Association*, 62nd Antitrust Law Spring Meeting, March 2014.

Developments in Antitrust Cases Alleging Delayed Generic Competition in the Pharmaceutical Industry, *American Antitrust Institute*, 5th Annual Future of Private Antitrust Enforcement Conference, December 2011.

Class Certification and Calculation of Damages, *American Bar Association*, Section of Antitrust Law and *International Bar Association*, 8th International Cartel Workshop, February 2010.

Class Certification Discussion and Demonstration, *American Bar Association*, Section of Antitrust Law, The Antitrust Litigation Course, October 2007.

Antitrust Injury and the Predominance Requirement in Antitrust Class Actions, *American Bar Association*, Houston Chapter, April 2007.

Class Certification Discussion and Demonstration, *American Bar Association*, Section of Antitrust Law, The Antitrust Litigation Course, October 2005.

What Can an Economist Say About The Presence of Conspiracy?, *American Bar Association*, Antitrust Law, The Antitrust Litigation Course, October 2003.

Lessons From Gas Deregulation, *International Association for Energy Economics*, Houston Chapter, December 2002.

A Retrospective Look at Wholesale Gas Industry Restructuring, *Center for Research in Regulated Industries*, 20th Annual Conference of the Advanced Workshop in Regulation and Competition, May 2001.

The Economic Analysis of Intellectual Property Damages, *American Conference Institute*, 6th National Advanced Forum, January 2001.

Law and Economics of Predatory Pricing Under Federal and State Law, *Golden State Antitrust and Unfair Competition Law Institute*, 8th Annual Meeting, October 2000.

Non-Price Predation--Some New Thinking About Exclusionary Behavior, *Houston Bar Association*, Antitrust and Trade Regulation Section, October 2000.

After the Guilty Plea: Does the Defendant Pay the Price in the Civil Damage Action, *American Bar Association*, Section of Antitrust Law, 48th Annual Spring Meeting, April 2000.

Economics of Restructuring in Gas Distribution, *Center for Research in Regulated Industries*, 12th Annual Western Conference, July 1999.

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Managing Director

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INVITED PRESENTATIONS (cont'd.)

A Basic Speed Law for the Information Superhighway, *California State Bar Association*, December 1998.

Innovation in Regulation, *Center for Research in Regulated Industries*, 11th Annual Western Conference, July/September 1998.

Electric Industry Deregulation: What Does The Future Hold?, *Los Angeles Headquarters Association*, November 1996.

Why Deregulate Electric Utilities?, *National Association of Regulatory Utility Commissioners*, November 1995.

Restructuring U.S. Power Markets: What Can the Gas Industry's Experience Tell Us?, *National Association of Regulatory Utility Commissioners*, July 1995.

Natural Gas Restructuring: Lessons for Electric Utilities and Regulators, *International Association for Energy Economics*, May 1995.

Techniques in the Direct and Cross-Examination of Economic, Financial, and Damage Experts, *The Antitrust and Trade Regulation Law Section of the State Bar of California and The Los Angeles County Bar Association*, 2nd Annual Golden State Antitrust and Trade Regulation Institute, October 1994.

Demonstration: Deposition of Expert Witnesses and Using Legal Technology, *National Association of Attorneys General*, 1994 Antitrust Training Seminar, September 1994.

Direct and Cross Examination of Financial, Economic, and Damage Experts, *The State Bar of California, Antitrust and Trade Regulation Law Section*, May 1994.

Price Premiums in Gas Purchase Contracts, *International Association for Energy Economics*, October 1992.

Valuing Water Supply Reliability, *Western Economic Association*, Natural Resources Section, July 1992.

Transportation Services After Order 636: "Back to the Future" for Natural Gas, Seminar sponsored by Jones, Day, Reavis & Pogue, May 1992.

The Cost of An Unreliable Water Supply for Southern California, Forum presented by Micronomics, Inc., May 1991.

Market Definition: It's Time for Some "New Learning", *Los Angeles County Bar Association*, Antitrust and Corporate Law Section, December 1989.

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Managing Director

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INVITED PRESENTATIONS (cont'd.)

Market Definition in Antitrust Cases: Some New Thinking, *Oregon State Bar, Antitrust Law Section*, March 1987.

Future Directions for Antitrust Activity in the Natural Gas Industry, *International Association of Energy Economists*, February 1987.

Information Externalities in Oil and Gas Leasing, *Western Economic Association Meetings*, Natural Resources Section, July 1983.

Economic Analysis of Offshore Oil and Gas Leasing, *Western States Land Commissioners Association*, December 1982.

PUBLISHED ARTICLES

"The Predominance Requirement for Antitrust Class Actions--Can Relevant Market Analysis Help?," *American Bar Association, Section of Antitrust Law, Economics Committee Newsletter*, Volume 7, No. 1, Spring 2007.

"Gas Line Economic?," *Petroleum News*, Volume 11, No. 25, June 2006.

"A Retrospective Look at Wholesale Gas: Industry Restructuring," *Journal of Regulatory Economics*, January 2002.

"Balance Needed in Operating Agreements as Industry's Center of Gravity Shifts to State Oil Firms," *Oil & Gas Journal*, October 2000.

"What Can We Expect From Restructuring In Natural Gas Distribution?" *Energy Law Journal*, January 2000.

"Gas Experience Can Steer Power Away from Deregulation Snags," *Oil & Gas Journal*, August 1996.

"Anatomy of FERC Order 636: What's out, What's in," *Oil & Gas Journal*, June 1992.

"Antitrust II – Future Direction for Antitrust in the Natural Gas Industry," *Natural Gas*, November 1987.

"Information Externalities in Oil and Gas Leasing," *Contemporary Policy Issues*, March 1984.

"Regression Analysis in Antitrust Cases: Opening the Black Box," *Philadelphia Lawyer*, July 1983.

Dr. Jeffrey J. Leitzinger
Managing Director

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PUBLISHED ARTICLES (cont'd.)

"Foreign Competition in Antitrust Law," *The Journal of Law & Economics*, April 1983.

REGULATORY SUBMISSIONS

In the Matter of the Application of Southern California Gas Company Regarding Year Six (1999-2000) Under its Experimental Gas Cost Incentive Mechanism and Related Gas Supply Matters; A.00-06-023, Public Utilities Commission of the State of California, November 2001.

Sempra Energy and KN Energy, Incorporation; Docket No. EC99-48-000 (Affidavit and Verified Statement), Federal Energy Regulatory Commission, March/May 1999.

Rulemaking on the Commission's Own Motion to Assess and Revise the Regulatory Structure Governing California's Natural Gas Industry (Market Conditions Report), Public Utilities Commission of the State of California, July 1998.

In the Matter of the Application of Pacific Enterprises, Enova Corporation, et al. for Approval of a Plan of Merger Application No. A. 96-10-038, Public Utilities Commission of the State of California, August/October 1997.

In re: Koch Gateway Pipeline Company; Docket No. RP 97-373-000, Federal Energy Regulatory Commission, May/October 1997 and February 1998.

In the Matter of the Application of Sadlerochit Pipeline Company for a Certificate of Public Convenience and Necessity; Docket No. P-96-4, Alaska Public Utilities Commission, May 1996.

Public Funding of Electric Industry Research, Development, and Demonstration (RD&D) Under Partial Deregulation, California Energy Commission, January 1995.

NorAm Gas Transmission Company; Docket No. RP94-343-000, Federal Energy Regulatory Commission, August 1994/June 1995.

Natural Gas Vehicle Program; Investigation No. 919-10-029, California Public Utilities Commission, July 1994.

Transcontinental Gas Pipe Line Corporation; Docket No. RP93-136-000 (Proposed Firm-to-the-Wellhead Rate Design), Federal Energy Regulatory Commission, January 1994.

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Managing Director

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REGULATORY SUBMISSIONS (cont'd.)

In re: Sierra Pacific's Proposed Nomination for Service on Tuscarora Gas Pipeline; Docket No. 93-2035, The Public Service Commission of Nevada, July 1993.

Employment Gains in Louisiana from Entergy-Gulf States Utilities Merger, Louisiana Public Utilities Commission, December 1992.

Employment Gains to the Beaumont Area from Entergy-Gulf States Utilities Merger, Texas Public Utilities Commission, August 1992.

Transcontinental Gas Pipe Line Corporation; Docket No. RS 92-86-000 (Affidavit regarding Transco's Proposed IPS Service), Federal Energy Regulatory Commission, June 1992.

In Re: Pipeline Service Obligations; Docket No. RM91-11-000; Revisions to Regulations Governing Self-Implementing Transportation Under Part 284 of the Commission's Regulations; Docket No. RM91-3-000; Revisions to the Purchased Gas Adjustment Regulations; Docket No. RM90-15-000, Federal Energy Regulatory Commission, May 1991.

In the Matter of Natural Gas Pipeline Company of America; Docket No. CP89-1281 (Gas Inventory Charge Proposal), Federal Energy Regulatory Commission, January 1990.

In the Matter of United Gas Pipeline Company, UniSouth, Cypress Pipeline Company; Docket No. CP89-2114-000 (Proposed Certificate of Storage Abandonment by United Gas Pipeline Company), Federal Energy Regulatory Commission, December 1989.

In the Matter of Tennessee Gas Pipeline Company; Docket No. CP89-470 (Gas Inventory Charge Proposal), Federal Energy Regulatory Commission, July 1989.

In the Matter of Take-Or-Pay Allocation Proposed by Mississippi River Transmission Corporation, Federal Energy Regulatory Commission, March 1988.

In the Matter of Natural Gas Pipeline Company of America: Docket No. RP87-141-000 (Gas Inventory Charge Proposal), Federal Energy Regulatory Commission, December 1987.

In the Matter of Application of Wisconsin Gas Company for Authority to Construct New Pipeline Facilities; 6650-CG-104, Public Service Commission, State of Wisconsin, August 1987.

Trans-Alaska Pipeline System: Docket Nos. OR 78-1-014 and OR 78-1-016 (Phase 1 Remand), Federal Energy Regulatory Commission, October 1983.

Econ One Research, Inc.
 Los Angeles, California
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Dr. Jeffrey Leitzinger
 November 2010 – October 2014

Proceeding	Court/Commission/Agency	Docket or File	Deposition/ Trial/Hearing	Date	On Behalf Of
1. <u>In Re: Flonase Direct Purchaser Antitrust Litigation</u>	U.S. District Court, Eastern District of Pennsylvania	Case No. 2:08-CV-03149	Deposition Deposition	March 2010 March 2012	Plaintiff Plaintiff
2. <u>In Re: Wellbutrin XL Antitrust Litigation</u>	U.S. District Court, Eastern District of Pennsylvania	Case No. 2:08-CV-2431	Deposition Hearing Deposition	March 2010 April 2011 November 2011	Plaintiff Plaintiff Plaintiff
3. <u>CNA Holdings, Inc. and Celanese Americas Corporation v. Kaye Scholer, LLP and Robert A. Bernstein</u>	U.S. District Court, Southern District of New York	No. 08 CV 5547 (NRB)	Deposition	December 2010	Counterclaim-Defendant
4. <u>Neon Enterprise Software, LLC v. International Business Machines Corporation</u>	U.S. District Court, Western District of Texas, Austin Division	No. 1:09-CV-00896-JRN	Deposition	April 2011	Plaintiff
5. <u>State of Iowa v. Abbott Laboratories, et al. and The City of New York, et al. v. Abbott Laboratories, Inc., et al.</u>	U.S. District Court, District of Massachusetts	No. 01-CV-12257-PBS	Deposition	May 2011	Plaintiff
6. <u>King Drug Company of Florence, Inc., et al. v. Cephalon, Inc., et al.</u>	U.S. District Court, Eastern District of Pennsylvania	No. 06-CV-1797-MSG	Deposition Deposition Deposition	August 2011 February 2014 July 2014	Plaintiff Plaintiff Plaintiff
7. <u>Rochester Drug Co-Operative, Inc., at al. v. Braintree Laboratories</u>	U.S. District Court, District of Delaware	Case No. 07-142 (SLR)	Deposition	October 2011	Plaintiff

Econ One Research, Inc.
 Los Angeles, California
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Dr. Jeffrey Leitzinger
 November 2010 – October 2014

Proceeding	Court/Commission/Agency	Docket or File	Deposition/ Trial/Hearing	Date	On Behalf Of
8. <u>In Re: Wholesale Grocery Products Antitrust Litigation</u>	U.S. District Court, District of Minnesota	Civil Action No. 09-md-02090 ADM/AJB	Deposition Hearing	December 2011 May 2012	Plaintiff Plaintiff
9. <u>Altana Pharma AG, and Wyeth v. Teva Pharmaceuticals USA, Inc. and Teva Pharmaceutical Industries, Ltd.</u>	U.S. District Court, District of New Jersey	Civil Action No. 04-2355; 05-1966; 05-3920; 06-3672; 08-2877; (JLL) (CCC) on all	Deposition Trial	June 2012 June 2013	Defendant Defendant
10. <u>Apotex, Inc. and Apotex, Corp. v. Sanofi-Aventis, Sanofi-Synthelabo, Inc., Bristol-Myers Squibb Company and Bristol-Myers Squibb Sanofi Pharmaceuticals Holding Partnership</u>	Circuit Court, Broward County, Florida, 17 th Judicial Circuit	No. 11-001243	Deposition Trial	July 2012 March 2013	Plaintiff Plaintiff
11. <u>In Re: AndroGel Antitrust Litigation</u>	U.S. District Court, Northern District of Georgia	No. 1:09-MD-2084-TWT	Deposition	July 2012	Plaintiff
12. <u>Tyco Healthcare Group LP, and Mallinckrodt, Inc. v. Pharmaceutical Holdings Corporation, et al.</u>	U.S. District Court, District of New Jersey	Civil Action No. 07-CV-1299 (SRC)(MAS)	Deposition	August 2012	Plaintiff

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Proceeding	Court/Commission/Agency	Docket or File	Deposition/ Trial/Hearing	Date	On Behalf Of
13. <u>Allergan, Inc., et al. v. Athena Cosmetics, Inc., et al.</u>	U.S. District Court, Central District of California, Southern Division	Case No. SACV07-1316 JVS (RNBx); Case No. SACV09-0328 JVS (RNBx)	Deposition	February 2013	Defendant
14. <u>Mylan Pharmaceuticals, Inc., et al. v. Warner Chilcott Public Limited Company, et al.</u>	U.S. District Court, Eastern District of Pennsylvania	CIV No. 12-3824	Deposition	May 2013	Plaintiff
15. <u>In Re: Polyurethane Foam Antitrust Litigation</u>	U.S. District Court, Northern District of Ohio	Case No. 10-MD-2196	Deposition Deposition Deposition Deposition	July 2013 January 2014 April 2014 July 2014	Plaintiff Plaintiff Plaintiff Plaintiff
16. <u>Marchbanks Truck Service, Inc. d/b/a Bear Mountain Travel Stop, et al., v. Comdata Network, Inc. d/b/a Comdata Corporation, et al.</u>	U.S. District Court, Eastern District of Pennsylvania	No. 07-1078-JKG	Deposition	August 2013	Plaintiff
17. <u>Astrazeneca AB, Aktiebolaget Hässle, KBI-E Inc., KBI Inc., and Astrazeneca, LP v. Apotex Corp., Apotex Inc. and Torpharm, Inc.</u>	U.S. District Court, Southern District of New York	Civil Action No. 01-CIV-9351 (BSJ)	Deposition Trial	August 2013 November 2013	Defendant Defendant

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Proceeding	Court/Commission/Agency	Docket or File	Deposition/ Trial/Hearing	Date	On Behalf Of
18. <u>In re: Cathode Ray Tube (CRT) Antitrust Litigation</u>	U.S. District Court, Northern District of California, San Francisco Division	Case No. 3:07-CV-5944 SC	Deposition	August 2013	Plaintiff
19. <u>In re: Prograf Antitrust Litigation</u>	U.S. District Court, District of Massachusetts	Case No. 1:11-cv-10344-RWZ	Deposition	November 2013	Plaintiff
20. <u>The Shane Group, Inc., et al., v. Blue Cross Blue Shield of Michigan</u>	U.S. District Court, Eastern District of Michigan, Southern Division	No. 2:10-cv-14360-DPH-MKM	Deposition	December 2013	Plaintiff
21. <u>Adriana M. Castro, M.D., P.A. and Sugartown Pediatrics, LLC, et al. v. Sanofi Pasteur, Inc.</u>	U.S. District Court, District of New Jersey	Action No. #11-CV-07178-JLL	Deposition	September 2014	Plaintiff

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Pleadings and Orders**Date**

Direct Purchaser Plaintiffs' Complaint Against Mitsubishi and Thomson

05/05/14

Correspondence**Date**Hitachi

Letter from J. Clayton Everett, Jr. to Jennie Lee Anderson

04/29/11

Letter from Michelle Park Chiu to Jennie Lee Anderson

03/09/12

LG Electronics

Letter from Wilson Mudge to R. Alexander Saveri

07/26/11

Letter from Wilson Mudge to Gary L. Specks and Lauren C. Russell

07/20/12

Panasonic Entities

Letter from Adam C. Hemlock to Geoff Rushing and Lauren Russell

06/01/11

Letter from Adam C. Hemlock to Michael Christian

05/04/12

Samsung

Letter from Michael W. Scarborough to R. Alexander Saveri and Paul H. McVoy

08/12/11

Letter from Benjamin G. Bradshaw to Sylvie K. Kern

03/16/12

Letter from Benjamin G. Bradshaw to R. Alexander Saveri

04/09/12

Toshiba

Letter from Dana Foster to Lauren C. Russell and R. Alexander Saveri

03/23/12

Letter from Dana Foster to Lauren C. Russell and R. Alexander Saveri

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De Moor, Roger	07/31/12
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Kobayashi, Nobuhiko	07/17/12
Kwon, Kyung Tae	07/13/12
Lee, Jaein (Volume 1 and 2)	06/06/12
Lee, Jaein	07/24/13
Lee, Yun Seok	07/11/12
Seong, Mok Hyeon	07/09/12
Takeda, Yasu Hisa	07/12/12
Tobinaga, Tatsuo	07/16/12
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CHU00028752.01E - CHU00028754E
CHU00028758E
CHU00028760.01E - CHU00028762E
CHU00028763.01E - CHU00028767E
CHU00028768.01E - CHU00028770E
CHU00028773E
CHU00028776E
CHU00028786E
CHU00028803E
CHU00028815E - CHU00028816E
CHU00028817E
CHU00028869E
CHU00028873E
CHU00028909E
CHU00028952E
CHU00028955E
CHU00028958E
CHU00028959E

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Exhibit 2
List of Materials Relied Upon

CHU00028968.01E	- CHU00028969E
CHU00028975E	
CHU00029046E	
CHU00029062E	
CHU00029065E	
CHU00029105E	
CHU00029108E	
CHU00029110E	
CHU00029116E	
CHU00029131.01E	- CHU00029137E
CHU00029138.01E	- CHU00029143E
CHU00029144.01E	- CHU00029146.02E
CHU00029147E	- CHU00029151E
CHU00029152E	
CHU00029163E	
CHU00029171E	
CHU00029175E	
CHU00029179E	
CHU00029185E	
CHU00029191	
CHU00029214	
CHU00029228E	
CHU00029235E	
CHU00029245E	
CHU00029259.01E	- CHU00029261.02E
CHU00029262E	
CHU00029316	
CHU00029971E	
CHU00029987E	
CHU00029999E	
CHU00030005E	
CHU00030020E	
CHU00030036E	
CHU00030071E	
CHU00030410E	

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Exhibit 2
List of Materials Relied Upon

CHU00030414E	
CHU00030426E	
CHU00030449	- CHU00030457E
CHU00030458E	
CHU00030468E	
CHU00030497E	
CHU00030505E	
CHU00030506E	
CHU00030530E	
CHU00030547E	
CHU00030559	
CHU00030665E	
CHU00030670E	
CHU00030684E	
CHU00030698.01E	- CHU00030700E
CHU00030701	
CHU00030717E	
CHU00030720E	
CHU00030731E	
CHU00030745E	
CHU00030763E	- CHU00030765E
CHU00030766E	
CHU00030777	
CHU00030787.01E	- CHU00030794E
CHU00030797E	
CHU00030807.01E	- CHU00030815E
CHU00030819E	
CHU00030823E	
CHU00030827E	
CHU00030831E	
CHU00030835E	
CHU00030851E	
CHU00030855E	

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Exhibit 2
List of Materials Relied Upon

CHU00030888.01E	- CHU00030893.02E
CHU00030899.01E	- CHU00030903E
CHU00030916.01E	- CHU00030916.02E
CHU00030917E	
CHU00030960E	
CHU00030965E	
CHU00030973E	
CHU00030985E	
CHU00031002E	
CHU00031006E	
CHU00031010E	
CHU00031013E	
CHU00031018E	
CHU00031040E	
CHU00031044E	
CHU00031047E	
CHU00031051E	
CHU00031056E	
CHU00031075.01E	- CHU00031087E
CHU00031111.01E	- CHU00031112.02E
CHU00031113E	
CHU00031123	
CHU00031142E	
CHU00031150E	
CHU00031174.01E	- CHU00031175.02E
CHU00031176.01E	- CHU00031176.02E
CHU00031180E	
CHU00031190E	
CHU00031194E	
CHU00031202E	
CHU00031214E	
CHU00031221E	
CHU00031227E	
CHU00031240.01E	- CHU00031247E
CHU00031248E	

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Exhibit 2
List of Materials Relied Upon

CHU00031249.01E	- CHU00031252E
CHU00031253E	
CHU00031279E	
CHU00031804E	
CHU00036384.01E	- CHU00036385E
CHU00036386E	
CHU00036390E	
CHU00036392E	
CHU00036394.01E	- CHU00036395.02E
CHU00036408.01E	- CHU00036409.02E
CHU00036414E	
CHU00071226	
CHU00071480E	
CHU00100529	- CHU00100530
CHU00102752E	
CHU00123358E	- CHU00123361.02E
CHU00123375E	
CHU00123393E	
CHU00123530E	
CHU00123742E	
CHU00124103	
CHU00124930	
CHU00125162E	
CHU00125257	- CHU00125292
CHU00125374	
CHU00154037	- CHU00154420
CHU00281352	- CHU00281923
CHU00375118E	
CHU00442517	- CHU00442518
CHU00548418E	
CHU00608095	- CHU00608105
CHU00647932	- CHU00647943
CHU00660194E	
CHU00660213E	

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Exhibit 2
List of Materials Relied Upon

CHU00660217E	
CHU00660247E	
CHU00660306E	- CHU00660311E
CHU00660366E	
CHU00660369	
CHU00660373	- CHU00660382
CHU00660383	- CHU00660394
CHU00660395	
CHU00660408	- CHU00660418
CHU00660419	- CHU00660425
CHU00660426	- CHU00660435
CHU00660436	
CHU00660446	
CHU00660454	
CHU00660468	- CHU00660475
CHU00660476	- CHU00660486
CHU00660487	- CHU00660500
CHU00660515	- CHU00660522
CHU00660539	- CHU00660548
CHU00660549	- CHU00660560
CHU00660561	- CHU00660574
CHU00660575	- CHU00660585
CHU00660586	- CHU00660593
CHU00660594	- CHU00660605
CHU00660606	- CHU00660615
CHU00660633	- CHU00660643
CHU00660644	- CHU00660655
CHU00660656	- CHU00660662
CHU00660663	- CHU00660670
CHU00660671	
CHU00660681	- CHU00660692
CHU00660717	
CHU00660728	
CHU00660736	
CHU00732816E	

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Exhibit 2
List of Materials Relied Upon

CHU00732831E	
CHWA00062147	- CHWA00062569
CHWA00088192	- CHWA00088762
CHWA00106460	- CHWA00106757
CHWA00226236	- CHWA00226269

Hitachi

HDP-CRT00025921

LG Electronics

EIN0017699	- EIN0018075
LGE00081653	

Mitsubishi

ME00131622E

MT Picture Display Co., Ltd.

MTPD-0223790E
MTPD-0343949E
MTPD-0400554
MTPD-0400573
MTPD-0400578
MTPD-0400580E
MTPD-0400597
MTPD-0416090
MTPD-0423645
MTPD-0423651E

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Exhibit 2
List of Materials Relied Upon

MTPD-0423668
MTPD-0423675E - MTPD-0423677E
MTPD-0426088E
MTPD-0468631
MTPD-0479714
MTPD-0479726E
MTPD-0483335
MTPD-0493552
MTPD-0517933
MTPD-0575968
MTPD-0576483E
MTPD-0580726
MTPD-0580737
MTPD-0580741
MTPD-0580751E
MTPD-0580775
MTPD-0580795
MTPD-0580798
MTPD-0580812
MTPD-0580821
MTPD-0607571E
MTPD-0607585
MTPD-0607598

Philips

PHLP-CRT-014823
PHLP-CRT-051982 - PHLP-CRT-052085
PHLP-CRT-089918

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Exhibit 2
List of Materials Relied Upon

Samsung

SDCRT-0002283	- SDCRT-0002362
SDCRT-0002984	
SDCRT-0003084	
SDCRT-0005830	
SDCRT-0005831	
SDCRT-0006041E	
SDCRT-0006632E	- SDCRT-0006633E
SDCRT-0006903E	
SDCRT-0007239_CT	
SDCRT-0007580	
SDCRT-0007588-0091718	
SDCRT-0021278	
SDCRT-0063870	
SDCRT-0068880	- SDCRT-0069081
SDCRT-0080694E	- SDCRT-0080696E
SDCRT-0086230E	- SDCRT-0086249E
SDCRT-0086238	
SDCRT-0086256E	- SDCRT-0087004E
SDCRT-0086557	
SDCRT-0087007	- SDCRT-0087440
SDCRT-0087393	
SDCRT-0087441	- SDCRT-0087740
SDCRT-0087662E	
SDCRT-0087667E	
SDCRT-0087694E	- SDCRT-0087698E
SDCRT-0087705E	- SDCRT-0087707E
SDCRT-0087932E	- SDCRT-0087933E
SDCRT-0087934E	- SDCRT-0087937E
SDCRT-0087938E	
SDCRT-0087953E	- SDCRT-0087962E
SDCRT-0088635	
SDCRT-0088661	
SDCRT-0088675	
SDCRT-0088713E	
SDCRT-0088715	
SDCRT-0088720	- SDCRT-0088725
SDCRT-0088732E	
SDCRT-0088738E	- SDCRT-0088739E

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Exhibit 2
List of Materials Relied Upon

SDCRT-0088740E	- SDCRT-0088742E
SDCRT-0088763	- SDCRT-0088772
SDCRT-0088773	
SDCRT-0088819E	- SDCRT-0088821E
SDCRT-0088846	- SDCRT-0088851
SDCRT-0089180	
SDCRT-0090174	
SDCRT-0090197E	
SDCRT-0090210E	- SDCRT-0090211E
SDCRT-0090233	
SDCRT-0090328	
SDCRT-0090339	- SDCRT-0090344
SDCRT-0091027	- SDCRT-0091852
SDCRT-0091351	
SDCRT-0091353E	
SDCRT-0091364E	
SDCRT-0091372E	
SDCRT-0091374E	
SDCRT-0091382E	
SDCRT-0091397E	
SDCRT-0091400E	
SDCRT-0091491	- SDCRT-0091504
SDCRT-0091599E	- SDCRT-0091604E
SDCRT-0091605	SDCRT-0091615
SDCRT-0091634	
SDCRT-0091643E	- SDCRT-0091647E
SDCRT-0091661	- SDCRT-0091667
SDCRT-0091687E	- SDCRT-0091691E
SDCRT-0201291	
SDCRT-0202981	
SEAI-CRT-00223186	

Toshiba

TAEC-CRT-00065484	
TAEC-CRT-00089342	
TAEC-CRT-00089968	- TAEC-CRT-00089969
TSB-CRT-00036875	
TSB-CRT-00045123	

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Exhibit 2
List of Materials Relied Upon

Other

FOX00150410

Data

Chunghwa

CHWA00000002
CHWA00000004
CHWA00000005
CHWA00000007
CHWA00000009
CHWA00000011
CHWA00000012
CHWA00000014
CHWA00256935
CHWA00256936

Hitachi

HAL-CRT00000051
HAL-CRT00001771
HDP-CRT00018516-T
HDP-CRT00018517 - HDP-CRT00018518
HEDUS-CRT00179555

LG Electronics

LGE00057028
LGE00057277
LGE00057335
LGE00057547
LGE00057554
LGE00057582

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Exhibit 2
List of Materials Relied Upon

LGE00057595
LGE00057608
LGE00057776
LGE--Highly Confidential 7
LGEUSA0001077 - LGEUSA0001082
ZENCRT44-HC - ZENCRT46-HC

LG Philips Display

LPD_00005516
LPD_00010955
LPD_00034712
LPD_00044227
Monthly billing files for 1999 - 2004

Mitsubishi

ME 00087280-410
ME 00087412-542
ME 00087809-908
ME 00087909-955
ME 0212-ME 0253

Panasonic Entities

MTPD-0122906
MTPD-0347731 - MTPD-0347738
MTPD-0652301 - MTPD-0652307
MTPD-0652322 - MTPD-0652339
PNA-0000001 - PNA-0017751
PNA-0027160 - PNA-0027168
PNA-0027176

Philips

11/6/2014

Exhibit 2
List of Materials Relied Upon

CUSTOMST.xls
PHLP-CRT-130382 - PHLP-CRT-130384
PHLP-CRT-130385 - PHLP-CRT-130388
PHLP-CRT-130389 - PHLP-CRT-130391
PRODCODE.xls
YTDDEC93.xls
YTDDEC94.xls
YTDDEC95.xls
YTDDEC96.xls
YTDDEC97.xls
YTDDEC98.xls
YTDMAR.xls

Samsung

SDCRT-0021274 - SDCRT-0021277
SDCRT-0083118 - SDCRT-0083119
SEAI-CRT-00165559

Thomson

TCE-CRT 0004410
TCE-CRT 0004453
TCE-CRT 0004498
TCE-CRT 0004568

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Exhibit 2
List of Materials Relied Upon

Toshiba

TACP-CRT-00000046 - TACP-CRT-00000064
TAEC-CRT-00016371
TAEC-CRT-00016373
TAIS-CRT-00000970
TSB-CRT-00061306 - TSB-CRT-00061317

Other

Korean Fair Trade Commission Multi-Party Meeting Decision Report, No. 2011-019, March 10, 2011.
Samsung SDI Defendants’ Supplemental Responses to Direct Purchaser Plaintiffs’ First Set of Interrogatories, NOS. 4 and 5, October 17, 2011.
Testimony of Pat Magrath of Georgetown Economic Services before the United States International Trade Commission, February 17, 2000.
Testimony of S.J. Yang before the Japan Fair Trade Commission, April 8-9, 2008.
DISP_LCD_000129

EXHIBIT 28

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION
No. 07-cv-05944 SC
This Document Relates to: MDL No. 1917
...(continuing caption page 2)

SUPERIOR COURT OF THE STATE OF CALIFORNIA
CITY AND COUNTY OF SAN FRANCISCO

STATE OF CALIFORNIA, et al.,
Plaintiffs,
v.
SAMSUNG SDI, INC., CO., LTD,
et al.,
Defendants.

HIGHLY CONFIDENTIAL
Deposition of TOSHIBA AMERICA
ELECTRONICS CORPORATION,

By and through their Corporate Designee,
JAY ALAN HEINECKE
Washington DC
Tuesday July 31, 2012
9:06 a.m.

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1 don't think we were making 27s. 30V, 32V, 36V. I 10:31:06

2 think that's what we were running. 10:31:22

3 Q. And you also mentioned there were some CDTs? 10:31:22

4 A. Oh, yes, I'm sorry. For CDTs 17 inch, and I 10:31:25

5 don't think -- I don't know if we have any sales 10:31:32

6 records of shipping 19s because it didn't go very well. 10:31:33

7 So 17s. 10:31:38

8 Q. All right. And how many lines were there at 10:31:38

9 the Horseheads facility? 10:31:42

10 A. We had the phase 1 line, the phase 2 line. 10:31:44

11 There was actually an extension to the phase 2 line. I 10:31:50

12 don't think it's classified as another line, so I'd say 10:31:54

13 that's still one and the same, and then we had the CDT 10:31:57

14 line; so three lines, to answer your question. 10:32:01

15 Q. All right. So you mentioned 19V, 20V, 30V, 10:32:03

16 32V and 36V were all manufactured on the phase 1 line 10:32:06

17 and the phase 2 line plus the extension; is that right? 10:32:12

18 A. No. Let me -- no, I'm sorry. 10:32:15

19 Q. Yeah. 10:32:16

20 A. Those were the product types that we made. 10:32:17

21 Q. Okay. Fair enough. 10:32:20

22 A. So as far as -- 10:32:20

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1 Q. So we're clear on the record. 10:32:21

2 A. Okay. 10:32:23

3 Q. So the product types are 19V, 20V, 30V, 32V 10:32:23

4 and 36V; right? 10:32:28

5 A. For CPTs. 10:32:28

6 Q. For CPTs, okay. So I apologize. Now tell me 10:32:30

7 of those product types what, which ones were 10:32:33

8 manufactured on phase 1? 10:32:36

9 A. 19V and 20V were on phase 1. 10:32:38

10 Q. Okay. And then 30, 32 and 36V were all on 10:32:43

11 the phase 2? 10:32:49

12 A. Phase 2. 10:32:50

13 Q. Plus the extension? 10:32:51

14 A. Plus the extension, yeah. I think initially 10:32:52

15 it was 30, 32 on the original phase 2 line. The 10:32:56

16 extension was what got us in the 36s. 10:33:00

17 Q. Got you. Okay. And then the 17-inch CDTs, 10:33:04

18 they had their own separate line? 10:33:08

19 A. They had their own production line because 10:33:10

20 they're a different beast. 10:33:13

21 Q. All right. With respect to the manufacturing 10:33:21

22 of the 19V and the 20V on the phase 1 line. 10:33:23

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1	A. Yes, sir.	10:33:26
---	--------------	----------

2	Q. Was there any type of retooling that needed	10:33:27
---	--	----------

3 to be done to convert from manufacturing 19V to 20V? 10:33:30

4 MR. FOSTER: Objection to the form of the 10:33:34

5 question. Vague and ambiguous, any type of retooling, 10:33:36

6 but you can answer if you understand. 10:33:39

7 THE WITNESS: I guess -- do you mind defining 10:33:44

8 retooling? Because -- well, please. 10:33:46

9 BY MR. LEBSOCK: 10:33:49

10	Q. Well, okay. So why don't you explain to me	10:33:49
----	---	----------

```
11      what needs to be done to run a 19V, and then change it      10:33:52
```

```
12      over to 20V if there's anything.                                10:34:00
```

13 A. You know, obviously my understanding from the 10:34:03

```
14      factory perspective is a couple variables. Obviously      10:34:06
```

```
15 size. So if you have your machinery set up, you have 10:34:14
```

16	to make sure it's well coordinated as far as which size	10:34:19
----	---	----------

17	the equipment's going to handle, number one, and then	10:34:23
----	---	----------

18	of course your customer specifications could be	10:34:25
----	---	----------

19	different. So what you're, you know, kind of gun	10:34:29
----	--	----------

20 insertion you're going to put in and whatnot, my 10:34:33

21	understanding is if you were going to do a customer	10:34:35
----	---	----------

22	change, let's say you're going to run, you know,	10:34:39
----	--	----------

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1 Toshiba tube types, Toshiba end customer I mean, 10:34:44
2 Toshiba consumer product customer tube types under 10:34:48
3 their spec and then you needed to switch to another 10:34:51
4 customer spec, I believe that was a two shift change, 10:34:54
5 and it ran -- I think there were four shifts, and it 10:35:02
6 ran 24/7. So the spec change could have an impact on, 10:35:05
7 on the line throughput. 10:35:11

8 Q. Okay. I see. So even within say 19V you 10:35:14
9 could be selling to two different customers slightly 10:35:19
10 different specifications, and you'd have to change some 10:35:23
11 things on the line to be able to run their product? 10:35:28

12 A. Could, could, yes, it's my understanding. 10:35:32

13 Q. And two shift change means that it would 10:35:36
14 take, what, like half a day? 10:35:41

15 A. Roughly, yes. That's my understanding. 10:35:42

16 Q. All right. Okay. And so was there somebody 10:35:44
17 at the factory that was responsible for planning what 10:35:50
18 was going to be produced and when to match the needs of 10:35:56
19 the customer and the efficient use of the factory's 10:36:02
20 facilities? 10:36:06

21 MR. FOSTER: Objection to the form of the 10:36:07
22 question. You can answer. 10:36:08

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1 THE WITNESS: I believe there's a 10:36:09

2 manufacture/production department, yes. 10:36:11

3 BY MR. LEBSOCK: 10:36:20

4 Q. Okay. And so tell me about -- was it a two 10:36:20

5 shift change to go from manufacturing something that 10:36:26

6 was 19V to 20V? 10:36:28

7 A. As I alluded to, they were on the same line. 10:36:34

8 So you could actually take a funnel -- hard to 10:36:37

9 describe. I could draw it but I know you can't do 10:36:43

10 that. You could actually have a line going where your 10:36:47

11 one device you're hanging in the rack may be a 19 and 10:36:52

12 the next one could be a 20, but like I said, it's in 10:36:55

13 the system in how each one is treated differently or 10:36:59

14 whatever the system is arranged to do. So that you 10:37:02

15 could run that way. So changing from a 19 to 20, it 10:37:06

16 could run simultaneously, but of course your mix might 10:37:13

17 be different depending on what's going on. 10:37:17

18 Q. All right. And you said the system, 10:37:19

19 something about the system. So how -- is it all 10:37:22

20 automated or are there robots that are putting stuff 10:37:25

21 together or is this done by people? 10:37:28

22 A. A lot of it is automated and a lot of it is 10:37:30

EXHIBIT 29

*** HIGHLY CONFIDENTIAL ***

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

Case No. 3:07-cv-05944 SC

MDL No. 1917

-----x

IN RE: CATHODE RAY TUBE (CRT)

ANTITRUST LITIGATION

-----x

This Document Relates to:

ALL ACTIONS

-----x

Ritz Carlton Hotel
602 Yeoksam-Dong,
Gangnam-Gu, Seoul
135-080, Korea

March 22, 2013

8:37 a.m.

Vol III of III

CONTINUED DEPOSITION of SANG-KYU PARK,
held at the aforementioned time and place, before
Audrey Shirley, Qualified Realtime Reporter, MBIVR

1 because I was mainly in charge of the Asian 09:14:11
2 region, I don't remember telling anybody to go to 09:14:15
3 the CES. 09:14:20

4 BY MR. KAO: 09:14:22

5 Q. Did anybody who attended a CES show 09:14:23
6 report back to you regarding what happened? 09:14:26

7 MR. SCARBOROUGH: Lacks foundation, calls 09:14:38
8 for speculation. 09:14:41

9 THE WITNESS: I do not think there's been 09:15:23
10 a report to me. However, if somebody from 09:15:26
11 marketing or research would go to the CES, 09:15:30
12 a corporate wide report -- 09:15:37

13 THE INTERPRETER: Excuse me. 09:15:40

14 THE WITNESS: -- the overall report would 09:15:42
15 be prepared and, maybe during a meeting like the 09:15:45
16 entire corporate meeting, I re -- I think I've 09:15:48
17 seen such a report. 09:15:53

18 BY MR. KAO: 09:16:03

19 Q. After -- after the 2007 visit to Las 09:16:03
20 Vegas for CES, did you travel to the United 09:16:06
21 States again? 09:16:11

22 A. Well, after -- after that I do not 09:16:35
23 remember. 09:16:37

24 Q. So you don't remember ever travelling 09:16:41
25 to the United States after 2007? 09:16:43

1 A. Correct. 09:16:51

2 Q. Is there any reason why you haven't 09:16:52

3 gone to the United States? 09:16:54

4 MR. SCARBOROUGH: It's argumentative, lacks 09:16:59

5 foundation, calls for speculation, vague and 09:17:01

6 ambiguous. 09:17:03

7 MR. FOSTER: It also mischaracterizes his 09:17:04

8 testimony. 09:17:06

9 THE WITNESS: Well, instead of any 09:17:58

10 particular reasons, between 2009 and the end of 09:18:01

11 2012, I was in charge of CRTs and, at that time, 09:18:06

12 the CRT demand disappeared in the U.S. and 09:18:12

13 because the demand existed in less developed 09:18:18

14 countries, such as the South East Asian nations 09:18:23

15 or India, I mainly went to those countries. In 09:18:27

16 the U.S. there was no particular transaction and 09:18:31

17 there was no sales opportunity. 09:18:36

18 BY MR. KAO: 09:18:40

19 Q. When you were in Malaysia from 1996 to 09:18:45

20 1999, were your offices located at the plant? 09:18:47

21 A. Yes, it was inside the plant. 09:18:52

22 Q. At that time did the Malaysia plant 09:19:10

23 produce both CDT and CPT? 09:19:14

24 A. Yes. 09:19:21

25 Q. And were there -- was it possible to 09:19:21

1 switch some of the production lines at the 09:19:39
2 Malaysia plant from producing CDT to CPT and then 09:19:41
3 vice versa? 09:19:47

4 MR. SCARBOROUGH: Lacks foundation, calls 09:20:03
5 for speculation, vague and ambiguous and 09:20:05
6 over-broad. 09:20:05

7 THE WITNESS: Because this is from a long 09:21:02
8 time ago, my recollection might not be all that 09:21:09
9 accurate. However, I believe that there were 09:21:16
10 such a review a few times because demand 09:21:19
11 constantly shifted. According to my 09:21:23
12 recollection, if we were to change the products 09:21:27
13 produced by production line, it required almost 09:21:33
14 80 to 90 per cent of the cost of setting up a new 09:21:40
15 line -- setting up a new line. So, because it 09:21:43
16 was unrealistic, according to my recollection, 09:21:50
17 the actual line change did not occur. 09:21:53

18 BY MR. KAO: 09:21:59

19 Q. So you don't recall any -- any lines 09:22:00
20 being switched from CDT to CPT or CPT to CDT at 09:22:05
21 anytime while you were there? 09:22:09

22 MR. SCARBOROUGH: Lacks foundation. 09:22:27

23 MR. FOSTER: To the extent you're referring 09:22:29
24 to his previous testimony you're 09:22:31
25 mischaracterizing it. 09:22:33

EXHIBIT 30



June 25, 2018

Certification

Park IP Translations

This is to certify that the attached translation is, to the best of my knowledge and belief, a true and accurate translation from Chinese into English of the document with bates numbers range: IRI-CRT-00000650 - IRI-CRT-00000652.

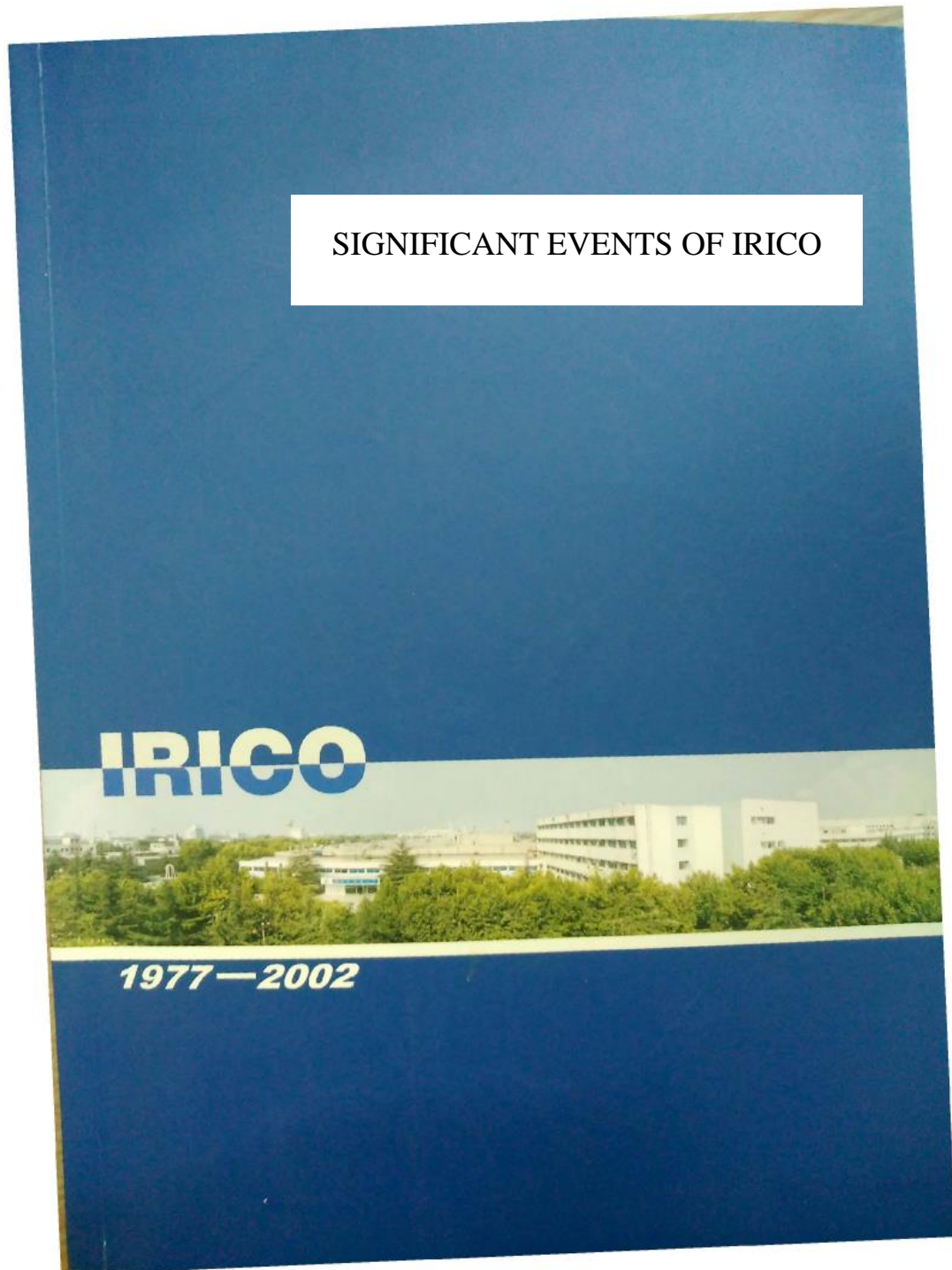
A handwritten signature in black ink, appearing to read 'Hanna Kang'.

Hanna Kang

Project Manager

Project Number: BBLP_1806_007

15 W. 37th Street 8th Floor
New York, NY 10018
212.581.8870
ParkIP.com



CONFIDENTIAL

IRI-CRT-00000650

SIGNIFICANT EVENTS OF IRICO 1977

1977

1977年2月17日
 又有各部门会议，讨论
 这个彩色显像管项目，
 建不建，大家意见不一。
 进，因为靠自己力量，
 同大长，满足不了需要，
 进口这套设备便宜些，
 自力更生快些。

先人一批洋
 九月十四日

On February 17, the party group of the Fourth Ministry of Machinery Industry reported the Party No.4 Document (1977) to the State Council and Deputy Prime Minister Li Xiannian and proposed to introduce packaged technology and equipment of color picture tube from abroad. The State Development Planning Commission also reported to the State Council in February and April regarding this matter. Li Xiannian commented that "We would like to approve this report. Color TV is very important for industry, national defense, and civilian use. It must not be omitted from the projects and it must be included in the plan when we formulate the five-year plan." The other Politburo leaders circled their names and agreed. At this point, the Party Central Committee and the State Council formally approved the restoration of the packaged technology and equipment of color picture tube project on April 13th, which was listed as a national key introduction project. The project was named "Xianyang Color Picture Tube Project", also known as "Xianyang Color TV Project" at that time.

In May, the Fourth Ministry of Machinery Industry appointed Wu Zukai as chief engineer of the factory.

In June, the Fourth Ministry of Machinery Industry formed the leading group for the introduction project and an external technical negotiation team.

On July 24, the factory site selected jointly by Shaanxi Province and the Fourth Ministry of Machinery Industry was north of the Ancun Brigade of the Battle Commune in Xianyang, Shaanxi. The number of the factory was determined as the state-owned 4400 CRT Plant.

In July, the first batch of construction workers arrived in Xi'an.

In August, Japan's Hitachi, Panasonic, Asahi Glass, Electrical Glass, DaiNippon Screen, DaiNipponToryo, and DaiNippon Printing came to China to participate in technical seminars, inquiry and quotation.

In August, Zhang Xiaochen was appointed as factory director.

In September, Xia Minyou was appointed as factory deputy director.

On November 14, under the direct leadership of the Party Central Committee, the "Color TV Engineering Campaign Leadership Team" was established. Hui Shigong, Deputy Director of the Revolutionary Committee of Shaanxi Province served as the team leader, Wang Zongjin, Deputy Minister of Fourth ministry of machinery industry served as deputy leader, and Bai Yi, Deputy Director of the Provincial Construction Commission, Yang Hua, Deputy Secretary of the Xianyang Prefectural Party Committee, Liang Feng, Deputy Director of the Fourth ministry of machinery industry Infrastructure Bureau, and Sun Kehua, the core group leader of the Provincial Electronic Bureau, were the leading group members.

CONFIDENTIAL

IRI-CRT-00000651



From January 16 to February 10, A 33-member technology delegation headed by Wang Zongjin, Deputy Minister of Fourth ministry of machinery industry went to Japan and investigated the assembly and ITC factories of Toshiba, Hitachi and Panasonic. The delegation investigated two glass factories of Asahi Glass and Electric Glass, the shadow mask manufacturing factory of Dai Nippon Printing and Screen, and corresponding magnetic material factories, deflection coil factories, power equipment factories, television factories, and research institutes, etc.

On March 9, the construction of the single building 1 in the living area was started.

From March 11 to March 19, eight companies including Toshiba, Panasonic, Hitachi, DaiNipponToryo, DaiNippon Printing, DaiNippon Screen, Japan Electric Glass, and Asahi Glass successively went to Beijing and Tianjin to negotiate contracts with us.

On March 14, the Fourth ministry of machinery industry reported the "Inspection Report on the project of Color Picture Tube Packaging in Japan" to Deputy Prime Minister Wang Zhen, Li Xiannian, Yu Qiuli, and Gu Mu, Li Xiannian and other central leaders made instructions on the CPT project.

On April 14, The CPT project construction headquarters convened the first meeting, which was chaired by Zhou Jiye, member of the Standing Committee of Shaanxi Provincial Party Committee. This was a meeting for pre-campaign preparation and implementation of engineering tasks.

On June 17, The Communist Party of China Fourth ministry of machinery industry party group proposed and the Shaanxi Provincial Party Committee approved the establishment of the Provisional Committee of the Communist Party of China for 4400 CRT Plant. The provisional party committee consisted of Liu Xiping, Zhang Xiaochen and Xia Minyou. Liu Xiping was appointed secretary of the provisional party committee.

1978 | 2

CONFIDENTIAL

IRI-CRT-00000652

彩虹大事记

SIGNIFICANT EVENTS OF IRICO

IRICO

1977—2002



由 扫描全能王 扫描创建

彩虹大事记 1977
SIGNIFICANT EVENTS OF IRICO

彩色显像管工程
没有部门会议，引起
这各彩色显像管工程
建不建，大家意见不一
出，因为靠自己攻关
时间长，满足不了当前需
进，这套设备使建好的
自力更生快些。

先念 批示
九月十日

1977年

2月17日 第四机械工业部党组以(1977)党4号文报国务院及李先念副总理，提出从国外引进彩色显像管成套技术和设备。国家计委于2月和4月也为此向国务院打报告。李先念副总理批示：“拟同意这个报告。彩色电视机对工业、国防和民用都很重要，在制定五年计划时，不要在项目上漏掉，必须列入计划”。中央政治局其他领导圈阅并同意。至此，中央、国务院于4月13日正式批准恢复彩色显像管成套设备和技术项目，并列为国家重点引进项目。定名为“咸阳彩色显像管工程”，当时也被称为“咸阳彩电工程”。

5月 第四机械工业部任命吴祖垵为工厂总工程师。

6月 第四机械工业部组成引进项目领导小组和对外技术谈判班子。

7月24日 经陕西省和第四机械工业部共同选定厂址为陕西省咸阳市战斗公社安村大队以北。确定工厂编号为国营四四00厂。

7月 首批工程建设人员抵达西安。

8月 日本日立、松下、旭硝子、电气硝子、网版、涂料及印刷等公司来华参加技术座谈和询价、报价工作。

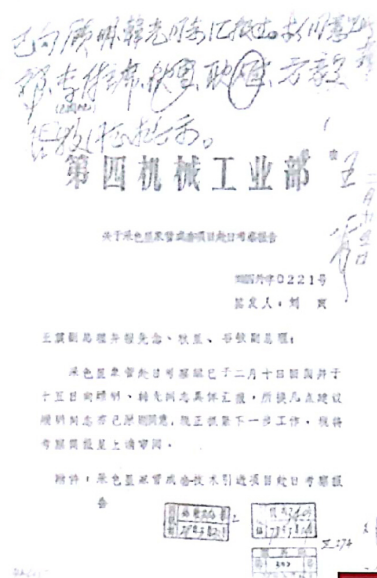
8月 任命张笑晨为工厂厂长。

9月 任命夏民友为工厂副厂长。

11月14日 在中央的直接领导下，成立了“彩电工程会战领导小组”。陕西省革命委员会副主任惠世恭任组长、四机部副部长王宗金任副组长，省建委副主任白毅、咸阳地委副书记杨化、四机部基建局副局长梁峰、省电子局党的核心小组组长孙克华为领导小组成员。

SIGNIFICANT EVENTS OF IRICO





1978年

SIGNIFICANT EVENTS OF IRICO

1月16日至2月10日 由四机部副部长王宗金同志为团长的技术考察团33人赴日本考察了东芝、日立、松下等三个公司的总装及ITC部分的工厂。考察了旭硝子、电气硝子的两个玻璃厂和大日本印刷、网版的荫罩生产厂以及相应配套的磁性材料工厂、偏转线圈工厂、动力设备工厂、电视机工厂、研究所等。

3月9日 生活区单身1号楼工程开工。

3月11日至3月19日 日本东芝、松下、日立、大日本涂料、大日本印刷、大日本网版、日本电气硝子、旭硝子等八家公司先后到京、津与我进行合同谈判。

3月14日 四机部向王震副总理及李先念、余秋里、谷牧副总理上报“关于彩色显像管成套项目赴日考察报告”，李先念等中央领导同志就彩管工程作出批示。

4月14日 彩管工程建设指挥部召开第一次会议，由陕西省委常委周周一主持。这是一次会战前的准备和落实工程任务的会议。

6月17日 经中共第四机械工业部党组建议，陕西省委批准，成立中国共产党四四00厂临时委员会。临时党委由刘希平、张笑晨、夏民友三人组成。刘希平任临时党委书记。

1978 | 2



由 扫描全能王 扫描创建

EXHIBIT 31

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10 *Attorneys for Defendants*
11 *IRICO GROUP CORP. and*
12 *IRICO DISPLAY DEVICES CO., LTD.*

13 **UNITED STATES DISTRICT COURT**
14 **NORTHERN DISTRICT OF CALIFORNIA**
15 **SAN FRANCISCO DIVISION**

16
17 IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION

Master File No. 3:07-cv-05944-SC
(N.D. Cal.)

MDL No. 1917

18
19 This Document Relates to:
20 ALL INDIRECT PURCHASER ACTIONS
21

**IRICO DEFENDANTS'
SUPPLEMENTAL OBJECTIONS AND
RESPONSES TO INDIRECT
PURCHASER PLAINTIFFS' FIRST
SET OF INTERROGATORIES**

22
23 PROPOUNDING PARTY: Indirect Purchaser Plaintiffs
24 RESPONDING PARTIES: Irico Group Corporation
Irico Display Devices Co., Ltd.
25 SET NUMBER: One
26
27
28

1 Pursuant to Federal Rules of Civil Procedure 26 and 33, Irico Group Corporation and Irico
2 Display Devices Co, Ltd. (collectively, “Irico” or “Irico Defendants”) hereby respond to the
3 Indirect Purchaser Plaintiffs’ (“Plaintiff”) First Set of Interrogatories (“Interrogatories”). Irico
4 reserves the right to amend or supplement these Objections and Responses (the “Responses”) to
5 the extent allowed by the Federal Rules of Civil Procedure and the Local Rules of Practice in
6 Civil Proceedings before the United States District Court for the Northern District of California
7 (“Local Rules”). Subject to and without waiving any of Irico’s General and Specific Objections as
8 set forth below, Irico is willing to meet and confer with Plaintiff regarding such General and
9 Specific Objections.

10 The following Responses are made only for purposes of this case. The Responses are
11 subject to all objections as to relevance, materiality and admissibility, and to any and all
12 objections on any ground that would require exclusion of any response if it were introduced in
13 court. All evidentiary objections and grounds are expressly reserved.

14 These Responses are subject to the provisions of the Stipulated Protective Order that the
15 Court issued on June 18, 2008 (“Protective Order”). Irico’s Responses are hereby designated
16 “Confidential” in accordance with the provisions of the Protective Order.

17 **GENERAL OBJECTIONS**

18 Irico makes the following General Objections to Plaintiff’s Interrogatories:

19 1. Irico’s Responses are based upon information available to and located by Irico as
20 of the date of service of these Responses. In responding to Plaintiff’s Interrogatories, Irico states
21 that it has conducted, or will conduct, a diligent search, reasonable in scope, of those files and
22 records in its possession, custody, or control believed to likely contain information responsive to
23 Plaintiff’s Interrogatories.

24 2. No express, incidental, or implied admissions are intended by these Responses and
25 should not be read or construed as such.

26 3. Irico does not intend, and its Responses should not be construed as, an agreement
27 or acquiescence with any characterization of fact, assumption, or conclusion of law contained in
28 or implied by the Interrogatories.

1 4. To the extent that Irico responds to Plaintiff's Interrogatories by stating that Irico
2 will produce or make available for examination responsive information or documents, Irico does
3 not represent that any such information or documents exist. Irico will make a good faith and
4 reasonable attempt to ascertain whether information responsive to Plaintiff's Interrogatories exists
5 and is properly producible, and will produce or make available for examination non-privileged
6 responsive materials to the extent any are located during the course of a reasonable search.

7 5. Irico objects to Plaintiff's Interrogatories to the extent that they are overly broad,
8 unduly burdensome, oppressive, and duplicative to the extent that they seek information or
9 documents that are already in the possession, custody, or control of Plaintiff.

10 6. Irico objects to Plaintiff's Interrogatories to the extent that they seek to impose
11 obligations on Irico beyond those of the Federal Rules of Civil Procedure, the Local Rules, or any
12 Order of this Court.

13 7. Irico objects to Plaintiff's Interrogatories to the extent they seek information that is
14 not relevant to jurisdictional issues or disproportionate to the needs of the case in resolving such
15 jurisdictional issues.

16 8. Irico objects to Plaintiff's Interrogatories to the extent that they are vague,
17 ambiguous, or susceptible to more than one interpretation. Irico shall attempt to construe such
18 vague or ambiguous Interrogatories so as to provide for the production of responsive information
19 that is proportionate to the needs of the case. If Plaintiff subsequently asserts an interpretation of
20 any Interrogatory that differs from Irico's understanding, Irico reserves the right to supplement or
21 amend its Responses.

22 9. Irico objects to Plaintiff's Interrogatories to the extent that they contain terms that
23 are insufficiently or imprecisely defined. Irico shall attempt to construe such vague or ambiguous
24 Interrogatories so as to provide for the production of responsive information that is proportionate
25 to the needs of the case.

26 10. Irico objects to Plaintiff's Interrogatories to the extent that they seek information
27 that is protected from disclosure by the attorney-client privilege, work product doctrine, joint
28 defense or common interest privilege, self-evaluative privilege, or any other applicable privilege

1 or immunity. Irico will provide only information that it believes to be non-privileged and
2 otherwise properly discoverable. None of Irico's responses is intended nor should be construed as
3 a waiver of any such privilege or immunity. The inadvertent or mistaken provision of any
4 information or responsive documents subject to any such doctrine, privilege, protection or
5 immunity from production shall not constitute a general, inadvertent, implicit, subject-matter,
6 separate, independent or other waiver of such doctrine, privilege, protection or immunity from
7 production.

8 11. Irico objects to Plaintiff's Interrogatories to the extent that they call for
9 information that is not in the possession, custody, or control of Irico. Irico also objects to the
10 extent that any of Plaintiff's Interrogatories seek information from non-parties or third parties,
11 including but not limited to any of Irico's subsidiary or affiliated companies.

12 12. Irico objects to Plaintiff's Interrogatories to the extent that responding would
13 require Irico to violate the privacy and/or confidentiality of a third party or confidentiality
14 agreement with a third party.

15 13. Irico objects to Plaintiff's Interrogatories to the extent that they seek information
16 that is publicly available, already in Plaintiffs' possession, custody, or control, or more readily
17 available from other sources.

18 14. Irico objects to Plaintiff's Interrogatories to the extent that they seek information
19 or documents concerning transactions outside the United States. Such Interrogatories are unduly
20 burdensome and irrelevant because they do not relate to actions by Irico in or causing a direct
21 effect in the United States. Such Interrogatories are also unduly burdensome and irrelevant to this
22 pending action as Plaintiffs' class definition is confined to "individuals and entities that indirectly
23 purchased Cathode Ray Tube Products . . . in the United States" (see Indirect Purchaser Plaintiffs'
24 Fourth Consolidated Amended Complaint).

25 15. Irico objects to Plaintiff's Interrogatories to the extent that compliance would
26 require Irico to violate the laws, regulations, procedures, or orders of a judicial or regulatory body
27 of foreign jurisdictions.
28

1 16. Irico's responses, whether now or in the future, pursuant to Plaintiff's
2 Interrogatories should not be construed as either (i) a waiver of any of Irico's general or specific
3 objections or (ii) an admission that such information or documents are either relevant or
4 admissible as evidence.

5 17. Irico objects to Plaintiff's Interrogatories to the extent that compliance would
6 require Irico to seek information stored on backup or archived databases or other systems that are
7 not readily accessible or otherwise no longer active.

8 18. Irico objects to Plaintiff's Interrogatories to the extent that they are compound
9 and/or contain discrete subparts in violation of Federal Rule of Civil Procedure 33(a)(1).

10 19. Irico objects to Plaintiff's Interrogatories to the extent that they state and/or call for
11 legal conclusions.

12 20. Irico objects to the Interrogatories to the extent that they contain express or
13 implied assumptions of fact or law with respect to the matters at issue in this case.

14 21. Irico objects that Plaintiff's Interrogatories are irrelevant and premature because
15 the Court has not set a schedule for jurisdictional discovery or briefing that applies to Plaintiff.

16 22. Irico reserves the right to assert additional General and Specific Objections as
17 appropriate to supplement these Responses.

18 These General Objections apply to each Interrogatory as though restated in full in the
19 responses thereto. The failure to mention any of the foregoing General Objections in the specific
20 responses set forth below shall not be deemed as a waiver of such objections or limitations.

21 **GENERAL OBJECTIONS TO DEFINITIONS AND INSTRUCTIONS**

22 1. Irico objects to the definitions of "You" and "Your" (Definition No. 1) to the
23 extent that Plaintiff defines those terms to include the Irico's "present and former members,
24 officer, agents, employees, and all other persons acting or purporting to act on their behalf." This
25 definition is legally incorrect, overbroad, unduly burdensome, vague, and ambiguous. Irico also
26 objects to the inclusion of "all present and former directors, officers, Employees, agents,
27 representatives or any Persons acting or purporting to act on behalf of" Irico within this definition
28 to the extent it purports to encompass information that is protected by attorney-client privilege,

1 work product protection or any other applicable doctrine, privilege, protection or immunity or
2 otherwise calls for a legal conclusion.

3 2. Irico objects to the definition of “Document” (Definition No. 8) to the extent it
4 seeks to impose requirements that are beyond those imposed by the Federal Rules of Civil
5 Procedure, the Local Rules, or any other applicable laws.

6 3. Irico objects to the definition of “Employee” (Definition No. 9) on the grounds
7 that it calls for a legal conclusion and is otherwise vague, ambiguous, and overly broad. Irico
8 further objects to this definition to the extent that it attempts to impose burdens on Irico beyond
9 those imposed by the Federal Rules of Civil Procedure. Irico further objects to this definition to
10 the extent that it seeks information protected by the attorney client or other applicable privilege,
11 attorney work product doctrine, or otherwise seeks to violate rights of privacy under U.S. or
12 foreign law.

13 4. Irico objects to the definitions of “CRT” and “CRT Products” (Definitions No. 6
14 and 7) on the grounds that they are vague, ambiguous and overly broad. Irico further objects to
15 the use of the term “CRT Products” to the extent that it is inconsistent with the definition of
16 “CRT Products” as set forth in Plaintiff’s pleadings.

17 5. Irico objects to Instruction No. 1 (related to identification of persons) to the extent
18 that it purports to impose burdens or obligations broader than, inconsistent with, or not authorized
19 under the Federal Rules of Civil Procedure, including, without limiting the generality of the
20 foregoing, Rule 26(b)(5)(A) and Rule 26(e)(1). Irico further objects to this Instruction to the
21 extent that it purports to impose burdens or obligations broader than, inconsistent with, or not
22 authorized under, the Local Rules and any orders of the Court, and on the grounds that it is vague,
23 ambiguous, and inconsistent with common usage. Irico further objects to this Instruction to the
24 extent it seeks information that would disclose personal confidential information and/or violate
25 any and all rights of privacy under the United States Constitution or Article I of the Constitution
26 of the State of California, or any other applicable law or state constitution, or that is otherwise
27 prohibited from disclosure because to do so would cause Irico to violate legal and/or contractual
28 obligations to any other persons or entities.

6. Irico objects to Instruction No. 2 (related to identification of an entity other than a natural person) to the extent that it purports to impose burdens or obligations broader than, inconsistent with, or not authorized under the Federal Rules of Civil Procedure or other applicable rule or Order of this Court.

7. Irico objects to Instruction No. 3 (related to the production of business records in response to an interrogatory pursuant to Federal Rule of Civil Procedure 33(d)) on the grounds that it is unduly burdensome and purports to impose burdens and obligations upon Irico beyond those required by the Federal Rules of Civil Procedure or other applicable rule or Order of this Court.

SPECIFIC RESPONSES TO INTERROGATORIES

INTERROGATORY NO. 16

Identify the CRTs and/or CRT Products that you manufactured or produced for each month during the Class Period, including the brand name, product number, and intended use.

RESPONSE TO INTERROGATORY NO. 16

Irico reasserts and incorporates each of the General Objections and Objections to the Definitions and Instructions set forth above. Irico further objects that this interrogatory is irrelevant and premature because the Court has not set a schedule for jurisdictional discovery or briefing that applies to Plaintiff. Irico further objects that this interrogatory seeks information beyond the scope of what is relevant to resolving jurisdictional issues and beyond that authorized under the Court's April 25, 2018 Order Denying Plaintiffs' Motion to Compel. Irico also objects that this interrogatory is overbroad, unduly burdensome, and disproportionate to the needs of the case in resolving jurisdictional issues. Irico also objects to this interrogatory as overbroad as to the time period called for; the only relevant inquiry is Irico's status as of November 26, 2007.

Subject to and without waiving the objections stated above, Irico refers Plaintiff to Irico's responses to DPP's jurisdictional discovery, which were served on Plaintiff on May 4, 2018.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 16

Subject to and without waiving the objections stated above, Irico responds as follows:

In 1995, Irico Group sold 2,460,000 fourteen-inch CPTs and 1,390,000 twenty-one-inch

1 CPTs. In 1996, Irico Group sold 2,280,000 fourteen-inch CPTs and 1,790,000 twenty-one-inch
2 CPTs. In 1997, Irico Group sold 1,690,000 fourteen-inch CPTs and 2,480,000 twenty-one-inch
3 CPTs. In 1998, Irico Group sold 2,360,000 fourteen-inch CPTs, 3,550,000 twenty-one-inch
4 CPTs, and 190,000 fifteen-inch CDTs. In 1999, Irico Group sold 2,990,000 fourteen-inch CPTs,
5 3,040,000 twenty-one-inch CPTs, and 780,000 fifteen-inch CDTs. In 2000, Irico Group sold
6 3,200,000 fourteen-inch CPTs and 820,000 fifteen-inch CDTs. In 2001, Irico Group sold
7 2,380,000 fourteen-inch CPTs and 280,000 fifteen-inch CDTs. In 2002, Irico Group sold
8 3,270,000 fourteen-inch CPTs and 4,300 fifteen-inch CDTs. In 2003, Irico Group sold 3,710,000
9 fourteen-inch CPTs, 1,010,000 twenty-one-inch CPTs, and 5,600 fifteen-inch CDTs. In 2004,
10 Irico Group sold 3,830,000 fourteen-inch CPTs and 1,910,000 twenty-one-inch CPTs. In 2005,
11 Irico Group sold 4,570,000 fourteen-inch CPTs and 1,550,000 twenty-one-inch CPTs. In 2006,
12 Irico Group sold 4,030,000 fourteen-inch CPTs and 2,770,000 twenty-one-inch CPTs. In 2007,
13 Irico Group sold 4,000,000 fourteen-inch CPTs and 3,740,000 twenty-one-inch CPTs.

14 In 1995, Irico Display sold 410,000 twenty-five-inch CPTs. In 1996, Irico Display sold
15 850,000 twenty-five-inch CPTs. In 1997, Irico Display sold 1,080,000 twenty-five-inch CPTs.
16 In 1998, Irico Display sold 1,340,000 twenty-five-inch CPTs. In 1999, Irico Display sold
17 1,350,000 twenty-five-inch CPTs. In 2000, Irico Display sold 1,510,419 twenty-five-inch CPTs
18 and 2,640,000 twenty-one-inch CPTs. In 2001, Irico Display sold 1,440,000 twenty-five-inch
19 CPTs, 3,020,000 twenty-one-inch CPTs, and 310,000 CPTs above twenty-seven-inches. In 2002,
20 Irico Display sold 2,090,000 twenty-five-inch CPTs, 3,590,000 twenty-one-inch CPTs, and
21 310,000 CPTs above twenty-seven-inches. In 2003, Irico Display sold 2,480,000 twenty-five-
22 inch CPTs, 3,940,000 twenty-one-inch CPTs, and 290,000 CPTs above twenty-seven-inches. In
23 2004, Irico Display sold 2,890,000 twenty-five-inch CPTs, 4,440,000 twenty-one-inch CPTs, and
24 73,000 CPTs above twenty-seven-inches. In 2005, Irico Display sold 2,470,000 twenty-five-inch
25 CPTs, 4,090,000 twenty-one-inch CPTs, and 21,000 CPTs above twenty-seven-inches. In 2005,
26 Irico Display sold 2,430,000 twenty-five-inch CPTs, 4,960,000 twenty-one-inch CPTs, and
27 16,000 CPTs above twenty-seven-inches. In 2007, Irico Display sold 1,790,000 twenty-five-inch
28 CPTs, 4,840,000 twenty-one-inch CPTs, and 390,000 CPTs above twenty-seven-inches.

INTERROGATORY NO. 17

Identify the CRTs and/or CRT Products that you sold, marketed, or distributed for each month during the Class Period, including the brand name, product number, and intended use.

RESPONSE TO INTERROGATORY NO. 17

Irico reasserts and incorporates each of the General Objections and Objections to the Definitions and Instructions set forth above. Irico further objects that this interrogatory is irrelevant and premature because the Court has not set a schedule for jurisdictional discovery or briefing that applies to Plaintiff. Irico further objects that this interrogatory seeks information beyond the scope of what is relevant to resolving jurisdictional issues and beyond that authorized under the Court's April 25, 2018 Order Denying Plaintiffs' Motion to Compel. Irico also objects that this interrogatory is overbroad, unduly burdensome, and disproportionate to the needs of the case in resolving jurisdictional issues. Irico also objects to this interrogatory as overbroad as to the time period called for; the only relevant inquiry is Irico's status as of November 26, 2007.

Subject to and without waiving the objections stated above, Irico refers Plaintiff to Irico's responses to DPP's jurisdictional discovery, which were served on Plaintiff on May 4, 2018.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 17

Subject to and without waiving the objections stated above, Irico responds as follows:

See Irico's Supplemental Response to Interrogatory No. 16.

INTERROGATORY NO. 18

Identify every channel used by you to sell, market, or distribute CRTs and/or CRT Products during the Class Period, including:

- (a) the identity of the entity or division that issued the invoice for the CRT and/or CRT Product sale;
- (b) the identity of the entity to which you invoiced the CRT and/or CRT Product sale;
- (c) the destined country or region of CRTs and/or CRT Products;
- (d) the type of CRT and/or CRT Product sold or distributed through each channel;

If You used different channels at different points within the Class Period, identify when you used each channel to sell, market, or distribute CRTs and/or CRT Products.

RESPONSE TO INTERROGATORY NO. 18

Irico reasserts and incorporates each of the General Objections and Objections to the Definitions and Instructions set forth above. Irigo further objects that this interrogatory is irrelevant and premature because the Court has not set a schedule for jurisdictional discovery or briefing that applies to Plaintiff. Irigo further objects that this interrogatory seeks information beyond the scope of what is relevant to resolving jurisdictional issues and beyond that authorized under the Court's April 25, 2018 Order Denying Plaintiffs' Motion to Compel. Irigo also objects that this interrogatory is overbroad, unduly burdensome, and disproportionate to the needs of the case in resolving jurisdictional issues. Irigo also objects to this interrogatory as overbroad as to the time period called for; the only relevant inquiry is Irigo's status as of November 26, 2007.

Subject to and without waiving the objections stated above, Irigo refers Plaintiff to Irigo's responses to DPP's jurisdictional discovery, which were served on Plaintiff on May 4, 2018.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 18

Subject to and without waiving the objections stated above and pursuant to the Special Master's August 2, 2018 order (Dkt. No. 5320) regarding Direct Purchaser Plaintiffs' motion to compel, Irigo will (1) search for and produce pertinent documents detailing the legal relationship of Irigo and any exporter of Irigo's CRT products into the United States throughout the class period; (2) identify the locations of all repositories of electronic documents or files relating to United States sales of Irigo's CRT Products and the legal relationships of Irigo and any entities that sold Irigo's CRT Products in the United States throughout the class period; (3) provide summary explanations of sales records relevant to United States sales of Irigo's CRT Products and of "Irigo's efforts to sell products in the U.S. during the class period;" and (4) identify all managerial persons with knowledge of United States sales of Irigo's CRT Products throughout the class period and their work histories.

1 Dated: August 7, 2018

BAKER BOTTS LLP

2
3 /s/ Stuart C. Plunkett

Stuart C. Plunkett

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12 *Attorneys for Defendants*

13 *IRICO GROUP CORP. and*

14 *IRICO DISPLAY DEVICES CO., LTD.*

CERTIFICATE OF SERVICE**In re: Cathode Ray Tube (CRT) Antitrust Litigation - MDL No. 1917**

I declare that I am employed in the County of San Francisco, California. I am over the age of eighteen years and not a party to the within case; my business address is: Baker Botts LLP, 101 California Street, Suite 3600, San Francisco, CA 94111.

On August 7, 2018, I served the following document(s) described as:

**IRICO DEFENDANTS' SUPPLEMENTAL OBJECTIONS AND RESPONSES TO
INDIRECT PURCHASER PLAINTIFFS' FIRST SET OF INTERROGATORIES**

on the following interested parties in this action:

Guido Saveri (guido@saveri.com)
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*Lead Counsel for the Direct Purchaser
Plaintiffs*

*Lead Counsel for the Indirect Purchaser
Plaintiffs*

☐ (BY OVERNIGHT DELIVERY) I enclosed the documents in an envelope or package provided by an overnight delivery carrier and addressed to the persons at the addresses listed above. I placed the envelope or package for collection and overnight delivery at an office or regularly utilized drop box of the overnight delivery carrier.

☐ (BY MAIL) by placing a true copy thereof in a sealed envelope with postage fully prepaid and addressed to the persons at the addresses as shown above. I am readily familiar with the business practice of Baker Botts LLP for collection and processing of correspondence for mailing with the United States Postal Service, and the correspondence would be deposited with United States Postal Service that same day in the ordinary course of business.

☒ (BY ELECTRONIC MAIL) I caused such documents to be sent to the persons at the email addressed listed above. I did not receive, within a reasonable time after the transmission, any electronic message or other indication that the transmission was unsuccessful.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed on August 7, 2018, 2012 at San Francisco, California.

/s/ Stuart C. Plunkett

Stuart C. Plunkett

EXHIBIT 32

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Lead Counsel for Direct Purchaser Plaintiffs

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION

IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION

Master File No. 07-CV-5944-JST

MDL No. 1917

This Document Relates To:

ALL DIRECT PURCHASER ACTIONS

**DIRECT PURCHASER PLAINTIFFS'
SUPPLEMENTAL OBJECTIONS AND
RESPONSES TO DEFENDANTS IRICO
GROUP CORP. AND IRICO DISPLAY
DEVICES CO., LTD.'S FIRST SET OF
INTERROGATORIES TO DIRECT
PURCHASER PLAINTIFFS**

PROPOUNDING PARTIES: IRICO GROUP CORP.; IRICO DISPLAY DEVICES CO., LTD.

RESPONDING PARTIES: ARCH ELECTRONICS, INC.; CRAGO, D/B/A DASH COMPUTERS, INC.; MEIJER, INC.; MEIJER DISTRIBUTION, INC.; NATHAN MUCHNICK, INC.; PRINCETON DISPLAY TECHNOLOGIES, INC.; RADIO & TV EQUIPMENT, INC.; STUDIO SPECTRUM, INC.; WETTSTEIN AND SONS, INC. D/B/A WETTSTEIN'S

SET NO.: ONE

Pursuant to Rules 26 and 33 of the Federal Rules of Civil Procedure, Direct Purchaser Plaintiffs Arch Electronics, Inc.; Crago, d/b/a Dash Computers, Inc.; Meijer, Inc.; Meijer Distribution, Inc.; Nathan Muchnick, Inc.; Princeton Display Technologies, Inc.; Radio & TV Equipment, Inc.; Studio Spectrum, Inc.; and Wettstein and Sons, Inc. d/b/a Wettstein's (together, "Plaintiffs"), by their attorneys, hereby provide the following objections to Defendants Irico Group Corp. and Irico Display Devices Co., Ltd.'s First Set of Interrogatories to Direct Purchaser Plaintiffs (the "Interrogatories") as follows:

GENERAL OBJECTIONS

Each of the following objections is incorporated by reference into each of the responses herein:

1. Plaintiffs and their counsel have not completed their (1) investigation of the facts relating to this case, (2) discovery in this action, or (3) preparation for trial. The following responses are therefore based upon information known at this time and are provided without prejudice to Plaintiffs' right to supplement these responses prior to trial or to produce evidence based on subsequently discovered information. Likewise, Plaintiffs' responses are based upon, and therefore limited by, Plaintiffs' present knowledge and recollection, and consequently, Plaintiffs reserve the right to make any changes to these responses if it appears at any time that inadvertent errors or omissions have been made.

2. Plaintiffs generally object to the Interrogatories, including the Instructions and Definitions, on the ground that they purport to enlarge, expand or alter in any way the plain

1 meaning and scope of any interrogatory or to impose any obligations on Plaintiffs' responses in
2 excess of those required by the Federal Rules of Civil Procedure. Plaintiffs will respond to these
3 Interrogatories in accordance with their understanding of the obligations imposed by the Federal
4 Rules of Civil Procedure.

5 3. Plaintiffs object to the Interrogatories, including the Instructions and Definitions, on
6 the ground that the information sought is protected by the attorney-client privilege, the attorney
7 work product doctrine, the settlement privilege, the mediation privilege or is otherwise privileged
8 and/or immune from discovery. By responding to these Interrogatories, Plaintiffs do not waive,
9 intentionally or otherwise, any attorney-client privilege, any settlement privilege, any mediation
10 privilege, attorney work-product or any other privilege, immunity or other protection that may be
11 asserted to protect any information from disclosure. Accordingly, any response or production of
12 documents or disclosure of information inconsistent with the foregoing is wholly inadvertent and
13 shall not constitute a waiver of any such privilege, immunity or other applicable protection.

14 4. Plaintiffs object to these Interrogatories on the ground that they are compound,
15 conjunctive or disjunctive.

16 5. Plaintiffs object to the Interrogatories on the ground that they duplicate other
17 requests, in whole or in part, made in MDL No. 1917 in violation of the Court's Order Re
18 Discovery and Case Management Protocol (April 2, 2012) (Dkt. 1128). Plaintiffs will not
19 reproduce any material that has been previously produced by another party to MDL No. 1917. *See*
20 Case Management Order, 2 (Feb. 16, 2021) (Dkt. 5907).

21 6. Plaintiffs object to the Interrogatories on the ground that they are overly broad and
22 unduly burdensome.

23 7. Plaintiffs object to the Interrogatories on the ground that they are vague, ambiguous,
24 redundant, harassing or oppressive.

25 8. Plaintiffs object to the Interrogatories on the ground that they require Plaintiffs to
26 draw legal conclusions.

27 9. Plaintiffs object to the Interrogatories on the ground that the information requested
28 is neither relevant nor proportional to the needs of the case.

1 10. Plaintiffs object to the Interrogatories on the ground that they, or any portion of
2 them, seek production of any information within the possession, custody, or control of any
3 Defendant, or of publicly available information such that the information is obtainable from some
4 other source that is more convenient, less burdensome or less expensive, or the production of the
5 information will impose undue burden, inconvenience, or expense upon Plaintiffs.

6 11. Plaintiffs reserve the right to modify their allegations based on additional discovery,
7 additional analysis of existing discovery, discovery not yet completed and/or expert discovery, and
8 Plaintiffs reserve the right to supplement and/or delete the responses given in light of further
9 evidence and further analysis of present and subsequently acquired evidence.

10 12. In addition, in accordance with the Federal Rules of Civil Procedure, Plaintiffs
11 reserve the right to introduce evidence not yet identified herein supporting Plaintiffs' allegations,
12 including evidence that Plaintiffs expect to further develop through the course of discovery and
13 expert analysis.

14 13. In providing responses to the Interrogatories, Plaintiffs reserve all objections as to
15 competency, relevance, materiality, privilege, or admissibility as evidence in any subsequent
16 proceeding in, or trial of, this or any other action for any purpose whatsoever.

17 14. No incidental or implied admissions are intended in these responses. Plaintiffs'
18 response to all or any part of any interrogatory should not be taken as an admission that: (a)
19 Plaintiffs accept or admit the existence of any fact(s) set forth or assumed by the interrogatory; or
20 (b) Plaintiffs have in their possession, custody or control documents or information responsive to
21 that interrogatory; or (c) documents or information responsive to that interrogatory exist. Plaintiffs'
22 response to all or any part of an interrogatory also is not intended to be, and shall not be, a waiver
23 by Plaintiffs of all or any part of its objection(s) to that interrogatory.

24 15. Plaintiffs object to the Interrogatories on the ground that the cumulative requests by
25 Defendants and Co-Conspirators in this litigation exceed the permissible number set forth in the
26 Federal Rules.

27 **OBJECTIONS TO CERTAIN DEFINITIONS AND INSTRUCTIONS**

28 1. Plaintiffs object to the definition of "Claim Form(s)" on the grounds that the term

1 “or similar forms approved by the Court and sent to or otherwise made available to potential Class
2 Members” is vague and ambiguous and requires Plaintiffs to refer to multiple documents.

3 2. Plaintiffs object to the definition of “Complaint” as vague and ambiguous. Plaintiffs
4 understand this definition to refer to DPPs’ Consolidated Amended Complaint at ECF No. 436 and
5 as modified by the Stipulation and Order at ECF No. 996.

6 3. Plaintiffs object to the definition of “Control” to the extent it requires Plaintiffs to
7 draw legal conclusions.

8 4. Plaintiffs object to the definition of “Co-Conspirators” on the grounds that it is
9 vague, ambiguous, and unintelligible. Paragraphs 105-111 of DPP’s Consolidated Amended
10 Complaint (ECF No. 436) describe CRT technology and products and do not enumerate entities.

11 5. Plaintiffs object to the definition of “Document(s)” on the ground that it is
12 overbroad boilerplate that includes irrelevant examples, such as “package inserts or other
13 information accompanying medications.” Plaintiffs further object to the extent that the
14 definition exceeds the scope of the Federal Rules of Civil Procedure.

15 6. Plaintiffs object to the definition of “Irico CRTs” as vague, ambiguous, and
16 unintelligible. Paragraphs 37-39 of the Complaint identify the Irico entities named as Defendants to
17 this litigation and allege that those entities manufactured, sold, and distributed CRT Products either
18 directly or through their subsidiaries or affiliates throughout the United States. The phrase
19 “including without limitation any Claim Form(s) that reflects purchases from Irico in Sections A,
20 B, or C of the form” is inconsistent with the preceding language in the definition and renders the
21 definition unintelligible.

22 7. Plaintiffs object to the definition of “Verified” as vague, ambiguous, and
23 incomplete. The citation provided does not define the term “Verified.”

24 8. Plaintiffs object to the definition of “You” and “Your” as vague and ambiguous as
25 it relies on the undefined, capitalized term “Plaintiffs.” If “Plaintiffs” is intended to mean the
26 parties identified as “Responding Parties” in the Interrogatories, Plaintiffs object to the definition
27 as overbroad in seeking discovery of class members who are not current Named Plaintiffs and have
28 not served as Class Representatives and further object on the grounds that this definition seeks the

1 production of documents outside Plaintiffs' possession, custody, and control. Plaintiffs further
 2 object on the ground that attorneys and agents are included in this definition, and any response or
 3 production of documents that may subsequently occur pursuant to these Interrogatories shall not
 4 include any documents protected by the attorney-client privilege, work product doctrine, the
 5 settlement privilege, or any other applicable privileges or doctrines. Plaintiffs further object to this
 6 definition to the extent that it refers to any entity other than Plaintiffs.

7 9. Plaintiffs object to the Instructions to the extent they seek to expand the
 8 requirements of the Federal Rules of Civil Procedure. Plaintiffs will respond in accordance with the
 9 Federal Rules.

10 **RESPONSES**

11 **INTERROGATORY NO. 1**

12 Identify any Document(s) that summarize, analyze, evaluate or otherwise compile any
 13 information contained in Claim Forms.

14 **RESPONSE TO INTERROGATORY NO. 1**

15 In addition to Plaintiffs' General Objections and Objections to Certain Definitions and
 16 Instructions, each of which is incorporated by this reference as though fully set forth herein,
 17 Plaintiffs object to this Interrogatory on the grounds that it calls for materials that are protected by
 18 the attorney-client privilege, the work product rule, and/or other evidentiary privilege. Plaintiffs
 19 further object to this Interrogatory on the grounds that it is vague and ambiguous including in its
 20 use of the terms "summarize," "analyze," "evaluate," and "otherwise compile." Plaintiffs further
 21 object to this Interrogatory on the grounds that it is overbroad and duplicative, and harassing in that
 22 it will interfere with the ongoing claims process as to which Defendants have no interest. Plaintiffs
 23 further object to this Interrogatory on the ground that the burden on Plaintiffs to describe such an
 24 overbroad group of documents outweighs any likely benefit and is not proportional to the needs of
 25 the case. Plaintiffs further object to this Interrogatory on the grounds that it seeks discovery of
 26 absent class members and serves as an inappropriate end-run around the prohibition on discovery
 27 of absent class members. Plaintiffs further object to this Interrogatory on the grounds that it seeks
 28 irrelevant information that is not necessary or proportional. Plaintiffs further object to this

1 Interrogatory on the grounds that it seeks confidential information of absent class members in
 2 violation of their privacy rights. Plaintiffs also object to this Interrogatory on the ground that it is
 3 compound.

4 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 1**

5 Plaintiffs hereby incorporate their previous objections and response to this interrogatory,
 6 *supra*. Subject to, and without waiving the foregoing objections, Plaintiffs provide the following
 7 supplemental response pursuant to an agreement with the Irico Defendants whereby the Irico
 8 Defendants “will narrow the scope of the outstanding discovery requests to the information
 9 provided in Paragraphs 1(a), (b) and (c) in our proposed stipulation” provided that Plaintiffs
 10 provide this information and, subject to the Irico Defendants’ reservation of rights, represent to
 11 Plaintiffs “that at this time Irico does not intend to serve further discovery regarding the claims
 12 process, the claims administrator or the absent class members.” *See* Rushing July 7, 2021 Ltr.;
 13 Werbel July 9, 2021 Ltr. Subject to the foregoing agreement and without waiving the foregoing
 14 objections, Plaintiffs provide the following supplemental response:

- 15 a. To date, Direct Purchaser Plaintiffs have identified 1,816 valid claim forms
 16 submitted by settlement class members for the direct purchase of CRTs, Televisions
 17 or Monitors in the United States. Of the 1,816 valid claim forms, 334 identified
 18 purchases of CRTs, 1,549 identified purchases of Televisions, and 992 identified
 19 purchases of Monitors.
- 20 b. To date, Direct Purchaser Plaintiffs have identified no valid claims for purchases of
 21 a CRT, Television or Monitor by a settlement class member from any of the Irico
 22 Defendants.
- 23 c. Direct Purchaser Plaintiffs have no records from any third party documenting direct
 24 purchases of Irico CRTs or televisions or monitors containing Irico CRTs in the
 25 United States.

26 Plaintiffs will supplement this response in accordance with Rule 26(e) of the Federal Rules of Civil
 27 Procedure.

INTERROGATORY NO. 2

Separately, for each Defendant or Co-Conspirator listed on the Claim Form, Identify:

- a. The total number of submitted and Verified Claim Forms that include purchases from that Defendant or Co-Conspirator in Section A of the Claim Forms;
- b. The total dollar amount of purchases from that Defendant or Co-Conspirator detailed in Section A of the submitted and Verified Claim Forms;
- c. The total number of submitted and Verified Claim Forms from that Defendant or Co-Conspirator that include purchases in Section B of the Claim Forms;
- d. The total dollar amount of purchases from that Defendant or Co-Conspirator detailed in Section B of the submitted and Verified Claim Forms;
- e. The total number of submitted and Verified Claim Forms that include purchases from that Defendant or Co-Conspirator in Section C of the Claim Forms; and,
- f. The total dollar amount of purchases from that Defendant or Co-Conspirator detailed in Section C of the submitted and Verified Claim Forms.

RESPONSE TO INTERROGATORY NO. 2

In addition to Plaintiffs' General Objections and Objections to Certain Definitions and Instructions, each of which is incorporated by this reference as though fully set forth herein, Plaintiffs further object to this Interrogatory on the ground that it is vague and ambiguous as to the meaning of "Identify," "Co-Conspirator," "Verified," and "submitted." Plaintiffs further object to this Interrogatory on the ground that the burden on Plaintiffs to provide this analysis of the claims process outweighs its likely benefit and is not proportional to the needs of the case. Plaintiffs object to this Interrogatory on the ground that it is compound. Plaintiffs further object to this Interrogatory on the grounds that it calls for (or could be construed to call for) materials that are protected by the attorney-client privilege, the work product rule or other evidentiary privilege. Plaintiffs further object to this Interrogatory on the grounds that Defendants' sales information is more easily available to Defendants from their own records and from discovery already produced in this litigation. Plaintiffs further object to this Interrogatory on the grounds that it seeks discovery of absent class members and serves as an inappropriate end-run around the prohibition on discovery

1 of absent class members. Plaintiffs further object to this Interrogatory on the grounds that it seeks
2 irrelevant information that is not necessary or proportional. Plaintiffs further object to this
3 Interrogatory on the grounds that it seeks confidential information of absent class members in
4 violation of their privacy rights. Plaintiffs further object to this Interrogatory on the grounds that it
5 is overbroad and duplicative, and harassing in that it will interfere with the ongoing claims process
6 as to which Defendants have no interest.

7 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 2**

8 Plaintiffs hereby incorporate their previous objections and response to this interrogatory,
9 *supra*. Subject to, and without waiving the foregoing objections, Plaintiffs supplement their
10 response as follows:

11 *See* supplemental response to Interrogatory No. 1, *supra*.

12
13 **INTERROGATORY NO. 3**

14 Identify any claims submitted involving Irico CRTs not Identified in Your response to
15 Interrogatory No. 2.

16 **RESPONSE TO INTERROGATORY NO. 3**

17 In addition to Plaintiffs' General Objections and Objections to Certain Definitions and
18 Instructions, each of which is incorporated by this reference as though fully set forth herein,
19 Plaintiffs further object to this Interrogatory on the ground that it is vague and ambiguous in its use
20 of terms "claims submitted," "Irico CRTs," and "involving." Plaintiffs further object to this
21 Interrogatory on the grounds that it calls for (or could be construed to call for) materials that are
22 protected by the attorney-client privilege, the work product rule or other evidentiary privilege.
23 Plaintiffs further object to this Interrogatory on the grounds that it seeks individualized discovery
24 of absent class members and serves as an inappropriate end-run around the prohibition on
25 discovery of absent class members. Plaintiffs further object to this Interrogatory on the grounds
26 that it seeks information about individualized claims that are not necessary or proportional at this
27 stage of the litigation. Plaintiffs further object to this Interrogatory on the grounds that it seeks
28 confidential information of absent class members in violation of their privacy rights. Plaintiffs

1 further object to this Interrogatory on the grounds that it is overbroad and duplicative, and
2 harassing in that it will interfere with the ongoing claims process as to which Defendants have no
3 interest.

4 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 3**

5 Plaintiffs hereby incorporate their previous objections and response to this interrogatory,
6 *supra*. Subject to, and without waiving the foregoing objections, Plaintiffs supplement their
7 response as follows:

8 *See* supplemental response to Interrogatory No. 1, *supra*.

9
10 DATED: July 14, 2021

By: /s/ R. Alexander Saveri

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EXHIBIT 33

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IRICO DISPLAY DEVICES CO., LTD.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION

IN RE: CATHODE RAY TUBE (CRT)
ANTITRUST LITIGATION

Master File No. 4:07-cv-05944-JST
(N.D. Cal.)

MDL No. 1917

This Document Relates to:
ALL DIRECT PURCHASER ACTIONS

**IRICO DEFENDANTS' SIXTH
SUPPLEMENTAL OBJECTIONS AND
RESPONSES TO DIRECT
PURCHASER PLAINTIFFS' FIRST
SET OF INTERROGATORIES**

PROPOUNDING PARTY: Direct Purchaser Plaintiffs

RESPONDING PARTIES: Irico Group Corporation
Irico Display Devices Co., Ltd.

SET NUMBER: One

Pursuant to Federal Rules of Civil Procedure 26 and 33, Irico Group Corporation and Irico Display Devices Co, Ltd. (collectively, “Irico” or “Irico Defendants”) hereby provides its sixth supplemental responses to the Direct Purchaser Plaintiffs’ (“Plaintiff”) First Set of Interrogatories, dated March 12, 2010 (“Interrogatories”). Irico reserves the right to amend or supplement these Objections and Responses (the “Responses”) to the extent allowed by the Federal Rules of Civil Procedure and the Local Rules of Practice in Civil Proceedings before the United States District Court for the Northern District of California (“Local Rules”). Subject to and without waiving any of Irico’s General and Specific Objections as set forth below, Irico is willing to meet and confer with Plaintiff regarding such General and Specific Objections.

The following Responses are made only for purposes of this case. The Responses are subject to all objections as to relevance, materiality and admissibility, and to any and all objections on any ground that would require exclusion of any response if it were introduced in court. All evidentiary objections and grounds are expressly reserved.

These Responses are subject to the provisions of the Stipulated Protective Order issued by the Court on June 18, 2008 (“Protective Order”). Irico’s Responses are hereby designated “Confidential” in accordance with the provisions of the Protective Order.

GENERAL OBJECTIONS

Irico makes the following General Objections to Plaintiff’s Interrogatories:

1. Irico’s Responses are based upon information available to and located by Irico as of the date of service of these Responses. In responding to Plaintiff’s Interrogatories, Irico states that it has conducted, or will conduct, a diligent search, reasonable in scope, of those files and records in its possession, custody, or control believed to likely contain information responsive to Plaintiff’s Interrogatories.

2. No express, incidental, or implied admissions are intended by these Responses and should not be read or construed as such.

3. Irico does not intend, and its Responses should not be construed as, an agreement or acquiescence with any characterization of fact, assumption, or conclusion of law contained in or implied by the Interrogatories.

1 4. To the extent that Irico responds to Plaintiff's Interrogatories by stating that Irico
2 will produce or make available for examination responsive information or documents, Irico does
3 not represent that any such information or documents exist. Irico will make a good faith and
4 reasonable attempt to ascertain whether information responsive to Plaintiff's Interrogatories exists
5 and is properly producible, and will produce or make available for examination non-privileged
6 responsive materials to the extent any are located during the course of a reasonable search.

7 5. Irico objects to Plaintiff's Interrogatories to the extent that they are overly broad,
8 unduly burdensome, oppressive, and duplicative to the extent that they seek information or
9 documents that are already in the possession, custody, or control of Plaintiff.

10 6. Irico objects to Plaintiff's Interrogatories to the extent that they seek to impose
11 obligations on Irico beyond those of the Federal Rules of Civil Procedure, the Local Rules, or any
12 Order of this Court.

13 7. Irico objects to Plaintiff's Interrogatories to the extent they seek information that is
14 not relevant or disproportionate to the needs of the case.

15 8. Irico objects to Plaintiff's Interrogatories to the extent that they are vague,
16 ambiguous, or susceptible to more than one interpretation. Irico shall attempt to construe such
17 vague or ambiguous Interrogatories so as to provide for the production of responsive information
18 that is proportionate to the needs of the case. If Plaintiff subsequently asserts an interpretation of
19 any Interrogatory that differs from Irico's understanding, Irico reserves the right to supplement or
20 amend its Responses.

21 9. Irico objects to Plaintiff's Interrogatories to the extent that they contain terms that
22 are insufficiently or imprecisely defined. Irico shall attempt to construe such vague or ambiguous
23 Interrogatories so as to provide for the production of responsive information that is proportionate
24 to the needs of the case.

25 10. Irico objects to Plaintiff's Interrogatories to the extent that they seek information
26 that is protected from disclosure by the attorney-client privilege, work product doctrine, joint
27 defense or common interest privilege, self-evaluative privilege, or any other applicable privilege
28 or immunity. Irico will provide only information that it believes to be non-privileged and

1 otherwise properly discoverable. Nothing in Irico's responses is intended nor should be construed
2 as a waiver of any such privilege or immunity. The inadvertent or mistaken provision of any
3 information or responsive documents subject to any such doctrine, privilege, protection or
4 immunity from production shall not constitute a general, inadvertent, implicit, subject-matter,
5 separate, independent or other waiver of such doctrine, privilege, protection or immunity from
6 production.

7 11. Irico objects to Plaintiff's Interrogatories to the extent that they call for
8 information that is not in the possession, custody, or control of Irico. Irico also objects to the
9 extent that any of Plaintiff's Interrogatories seek information from non-parties or third parties,
10 including but not limited to any of Irico's subsidiary or affiliated companies.

11 12. Irico objects to Plaintiff's Interrogatories to the extent that responding would
12 require Irico to violate the privacy and/or confidentiality of a third party or confidentiality
13 agreement with a third party.

14 13. Irico objects to Plaintiff's Interrogatories to the extent that they seek information
15 that is publicly available, already in Plaintiffs' possession, custody, or control, or more readily
16 available from other sources.

17 14. Irico objects to Plaintiff's Interrogatories to the extent that they seek information
18 or documents concerning transactions outside the United States. Such Interrogatories are unduly
19 burdensome and irrelevant to this pending action as Plaintiffs' purported class definition is
20 confined to "all persons . . . who directly purchased a Cathode Ray Tube Product . . . in the
21 United States" (see Direct Purchaser Plaintiffs' Consolidated Amended Complaint dated March
22 16, 2009).

23 15. Irico objects to Plaintiff's Interrogatories to the extent that compliance would
24 require Irico to violate the laws, regulations, procedures, or orders of a judicial or regulatory body
25 of foreign jurisdictions.

26 16. Irico's responses, whether now or in the future, pursuant to Plaintiff's
27 Interrogatories should not be construed as either (i) a waiver of any of Irico's general or specific
28

1 objections or (ii) an admission that such information or documents are either relevant or
2 admissible as evidence.

3 17. Irico objects to Plaintiff's Interrogatories to the extent that they are compound
4 and/or contain discrete subparts in violation of Federal Rule of Civil Procedure 33(a)(1).

5 18. Irico objects to Plaintiff's Interrogatories to the extent that they state and/or call for
6 legal conclusions.

7 19. Irico objects to the Interrogatories to the extent that they contain express or
8 implied assumptions of fact or law with respect to the matters at issue in this case.

9 20. Irico objects to the Interrogatories to the extent they seek information or
10 documents that cannot be removed or transmitted outside China without violating the laws and
11 regulations of that country, including but not limited to restrictions on the transmission of state
12 secrets or trade secrets as those terms are defined under Chinese law.

13 21. Irico reserves the right to assert additional General and Specific Objections as
14 appropriate to supplement these Responses.

15 These General Objections apply to each Interrogatory as though restated in full in the
16 responses thereto. The failure to mention any of the foregoing General Objections in the specific
17 responses set forth below shall not be deemed as a waiver of such objections or limitations.

18 **GENERAL OBJECTIONS TO DEFINITIONS AND INSTRUCTIONS**

19 1. Irico objects to the definitions of "Defendant," "You," "Your," and "Yourself"
20 (Definition Nos. 1 and 3) to the extent that Plaintiff defines those terms to include the Irico's
21 "present or former employees, officers, directors, agents, predecessors, successors, parents,
22 subsidiaries, affiliates, joint ventures or any other person acting on their behalf." This definition is
23 overbroad, unduly burdensome, vague, and ambiguous. Irico also objects to the inclusion of all
24 "present or former employees, officers, directors, agents . . . or any other person acting on [the]
25 behalf [of]" Irico within this definition to the extent it purports to encompass information that is
26 protected by attorney-client privilege, work product protection or any other applicable doctrine,
27 privilege, protection or immunity or otherwise calls for a legal conclusion.

28 2. Irico objects to the definition of "Document" (Definition No. 4) to the extent it

1 seeks to impose requirements that are beyond those imposed by the Federal Rules of Civil
2 Procedure, the Local Rules, or any other applicable laws.

3 3. Irico objects to the definition of “Employee” (Definition No. 5) on the grounds
4 that it calls for a legal conclusion and is otherwise vague, ambiguous, and overly broad. Irico
5 further objects to this definition to the extent that it attempts to impose burdens on Irico beyond
6 those imposed by the Federal Rules of Civil Procedure. Irico further objects to this definition to
7 the extent that it seeks information protected by the attorney client or other applicable privilege,
8 attorney work product doctrine, or otherwise seeks to violate rights of privacy under U.S. or
9 foreign law.

10 4. Irico objects to the definitions of “CRT” and “CRT Product” (Definition No. 6) on
11 the grounds that they are vague, ambiguous and overly broad. Irico further objects to the use of
12 the term “CRT Products” to the extent that it is inconsistent with the definition of “CRT
13 Products” as set forth in Plaintiff’s pleadings.

14 5. Irico objects to the definition of the “Relevant Time Period” (Definition No. 7) as
15 overbroad, unduly burdensome, and beyond the applicable statute of limitations.

16 6. Irico objects to the definition of “Communication” (Definition No. 8) on the
17 grounds that it is vague, ambiguous, and overly broad. Irico further objects to this definition to the
18 extent that it attempts to impose burdens on Irico beyond those imposed by the Federal Rules of
19 Civil Procedure.

20 7. Irico objects to the definition of “Meeting” (Definition No. 10) on the grounds that
21 the definition is overly broad, unduly burdensome, and seeks information that is neither relevant
22 nor proportionate to the needs of the case.

23 8. Irico objects to Instruction No. 1 (related to identification of persons) to the extent
24 that it purports to impose burdens or obligations broader than, inconsistent with, or not authorized
25 under the Federal Rules of Civil Procedure, including, without limiting the generality of the
26 foregoing, Rule 26(b)(5)(A) and Rule 26(e)(1). Irico further objects to this Instruction to the
27 extent that it purports to impose burdens or obligations broader than, inconsistent with, or not
28 authorized under, the Local Rules and any orders of the Court, and on the grounds that it is vague,

1 ambiguous, and inconsistent with common usage. Irico further objects to this Instruction to the
 2 extent it seeks information that would disclose personal confidential information and/or violate
 3 any and all rights of privacy under the United States Constitution or Article I of the Constitution
 4 of the State of California, or any other applicable law or state constitution, or that is otherwise
 5 prohibited from disclosure because to do so would cause Irico to violate legal and/or contractual
 6 obligations to any other persons or entities.

7 9. Irico objects to Instruction No. 2 (related to identification of an entity other than a
 8 natural person) to the extent that it purports to impose burdens or obligations broader than,
 9 inconsistent with, or not authorized under the Federal Rules of Civil Procedure or other applicable
 10 rule or Order of this Court.

11 10. Irico objects to Instruction No. 3 (related to the production of business records in
 12 response to an interrogatory pursuant to Federal Rule of Civil Procedure 33(d)) on the grounds
 13 that it is unduly burdensome and purports to impose burdens and obligations upon Irico beyond
 14 those required by the Federal Rules of Civil Procedure or other applicable rule or Order of this
 15 Court.

16 **SPECIFIC RESPONSES TO INTERROGATORIES**

17 **INTERROGATORY NO. 1**

18 State the name, address, and relationship to You of each person who prepared or assisted
 19 in the preparation of the responses to these interrogatories. (Do not identify anyone who simply
 20 typed or reproduced the responses.)

21 **RESPONSE TO INTERROGATORY NO. 1**

22 Irico reasserts and incorporates each of the General Objections and Objections to the
 23 Definitions and Instructions set forth above. Irico also objects to the extent that this request calls
 24 for information and documents that are privileged under the attorney-client privilege and work
 25 product doctrine.

26 Subject to and without waiving the objections stated above, Irico responds that the
 27 following employees assisted in the preparation of these responses:

- 28 • Wenkai Zhang

1 Irico will supplement its response to this interrogatory with any additional individuals who assist
2 with preparation of supplemental responses.

3 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 1**

4 Irico reasserts and incorporates each of the General Objections, Objections to the
5 Definitions and Instructions, and specific objections to Interrogatory No. 1 set forth above.

6 Subject to and without waiving the foregoing objections, Irico states as follows: Irico
7 responds that the following additional employees assisted in the preparation of these responses:

- 8 • Yan Yunlong

9 **INTERROGATORY NO. 3**

10 Identify each employee with pricing authority who attended any trade association during
11 the Relevant Time Period relating to CRT and/or CRT Products and state with respect to each
12 employee:

- 13 (a) the trade association attended;
- 14 (b) the dates of attendance;
- 15 (c) any offices, chairs or committee positions held in each of the trade associations;
- 16 and
- 17 (d) the dates which those offices, chairs or committee positions were held.

18 **RESPONSE TO INTERROGATORY NO. 3**

19 Irico reasserts and incorporates each of the General Objections and Objections to the
20 Definitions and Instructions set forth above.

21 Subject to and without waiving the objections stated above, Irico responds that it will
22 conduct a reasonable search for information responsive to this Interrogatory, if any, and
23 supplement its response as necessary.

24 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 3**

25 Irico reasserts and incorporates each of the General Objections, Objections to the
26 Definitions and Instructions, and specific objections to Interrogatory No. 3 set forth above.

27 Subject to and without waiving the foregoing objections, Irico states as follows: Irico has
28 been able to confirm the attendance of the specific individuals listed below at trade association

1 meetings during the Relevant Period.

2 Wang Zhaojie attended meetings of the China CPT Industry Association on the following
3 dates: November 6, 1998; April 2, 1999; December 9, 1999; April 6, 2000; and September 14,
4 2000. Mr. Wang recalls attending other meetings of the China CPT Industry Association during
5 the Relevant Period but cannot recall any specific dates. Wang Zhaojie did not hold any offices,
6 chairs or committee positions in the China CPT Industry Association.

7 Wang Ximin attended meetings of the China CPT Industry Association during the
8 Relevant Period but cannot recall any specific dates. Wang Ximin did not hold any offices, chairs
9 or committee positions in the China CPT Industry Association.

10 **INTERROGATORY NO. 5**

11 Identify any meeting or communication between You and other producers of CRT and/or
12 CRT Products during the Relevant Time Period, including the named Defendants in this
13 coordinated proceeding, regarding CRT and/or CRT Product pricing, price increase
14 announcements, terms or conditions of sales, profit margins or market share, production levels,
15 inventory, customers, auctions, reverse auctions, dynamic bidding events, or sales, and for each
16 such meeting or communication:

17 (a) provide the date and location of the meeting or communication;

18 (b) identify the person(s) who initiated, called, organized, attended or participated in
19 the meeting or communication;

20 (c) describe the subject matter discussed and any information you provided or
21 received;

22 (d) describe every action taken by you as a result of the meeting or communication;
23 and

24 (e) identify all persons with knowledge relating to the meeting or communication.

25 **RESPONSE TO INTERROGATORY NO. 5**

26 Irico reasserts and incorporates each of the General Objections and Objections to the
27 Definitions and Instructions set forth above. Irico also objects that this interrogatory is
28 duplicative and cumulative of other requests served on Irico, including during jurisdictional

1 discovery.

2 Subject to and without waiving the objections stated above, Irico responds that it has
3 already provided information responsive to this interrogatory to Plaintiff in its responses to
4 jurisdictional discovery, including Irico's response to Request No. 10 of Direct Purchaser
5 Plaintiff Studio Spectrum, Inc's First Set of Requests for Production. Irico will conduct a
6 reasonable search for additional information responsive to this interrogatory, if any, and
7 supplement its response as necessary.

8 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 5**

9 Irico reasserts and incorporates each of the General Objections, Objections to the
10 Definitions and Instructions, and specific objections to Interrogatory No. 5 set forth above. Irico
11 also objects to this interrogatory to the extent it purports to require Irico to respond beyond the
12 scope of the modification to Interrogatory No. 5 removing CRT Products from the scope of this
13 interrogatory, as stated in the February 5, 2021 letter from R. Alexander Saveri to John Taladay.

14 Subject to and without waiving the foregoing objections, Irico states as follows: Wang
15 Zhaojie identifies the following meetings or communications with other producers of CRTs:

- 16 • November 6, 1998 meeting in Xi'an, People's Republic of China to discuss China
17 CDT market information attended by Wang Zhaojie.
- 18 • April 2, 1999 meeting in Nanjing, People's Republic of China to discuss China
19 CDT market information attended by Wang Zhaojie.
- 20 • April 6, 2000 meeting in Xiamen, People's Republic of China to discuss China
21 CDT market information attended by Wang Zhaojie.
- 22 • A meeting taking place on an unknown date at a SEG Hitachi factory in Shenzhen,
23 People's Republic of China, attended by Wang Zhaojie.

24 Wang Zhaojie believes that he may have attended additional meetings with other
25 producers of CRTs between 1998-2000, but he cannot recall the specifics of those meetings.
26 Such meetings may have occurred in Beijing and Changsha, People's Republic of China. Wang
27 Zhaojie did not attend any meetings outside of China. Wang Zhaojie believes he met with one or
28 more representatives of the following Chinese CRT producers: Shenzhen or Tianjin Samsung

SDI, Shanghai Yongxin, Changsha LG, Fuzhou Chunghwa, Beijing Matsushita, Shenzhen SEG Hitachi, and/or Dongguan Fudi. He could not recall the specific entities that participated in each individual meeting. Wang Zhaojie could not recall the names of the individual(s) from the various entities who attended each meeting, but believes the various attendees included Wong Lian (Changsha LG), Yang Guojun (Shenzhen SEG Hitachi), Li Mingzhi (either Shenzhen or Tianjin Samsung SDI), and/or J.S. Lu (Fuzhou Chunghwa). The subject matter of these communications and meetings involved information on Chinese CRT issues and market conditions. Irico believes these meetings were largely connected to the China CPT Industry Association.

In addition, Su Xiaohua, then the Deputy General Manager for Planning in the Irico Sales Company, recalls attending an event, with an unknown Irico employee, hosted by Skyworth, a Chinese television manufacturer and customer of Irico, at which he interacted with other CRT manufacturers. This event was organized by Skyworth and involved companies from throughout Skyworth's supply chain, not just CRT manufacturers. Irico is not aware of any discussions with other CRT manufacturers at this meeting regarding pricing, price increase announcements, terms or conditions of sales, profit margins or market share, production levels, inventory, other customers, auctions, reverse auctions, dynamic bidding events, or sales.

Irico continues to conduct a reasonable search for information responsive to Interrogatory No. 5 as reflected in the March 31, 2021 Special Master's Order re DPPs' Motion to Compel Responses to Interrogatory Nos. 4 & 5, ECF No. 5919. Irico will provide an additional supplemental response by May 10, 2021.

SECOND SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 5

Irico reasserts and incorporates each of the General Objections, Objections to the Definitions and Instructions, and specific objections to Interrogatory No. 5 set forth above.

Subject to and without waiving the foregoing objections, Irico states as follows: Wang Ximin believes that he attended no more than a few meetings with other producers of CRTs during the relevant period but cannot recall the specifics of those meetings. Such meetings may have occurred in Xianyang or Dongguan, People's Republic of China. Wang Ximin did not

1 attend any meetings outside of China. Wang Ximin believes he met with one or more
 2 representatives of the following Chinese CRT producers during these few meetings but cannot
 3 recall specifically: Shenzhen Samsung SDI, Shanghai Yongxin, Changsha LG, Fuzhou
 4 Chunghwa, Beijing Matsushita, Shenzhen SEG Hitachi, Nanjing LG Philips and/or Dongguan
 5 Fudi. Wang Ximin could not recall the names of the individual(s) from the various entities who
 6 attended each meeting or who attended each of the few meetings, but he believes the various
 7 attendees would have included Yang Guojun (SEG Hitachi), Zhu Danlin (Shanghai Yongxin),
 8 Fang Wenqiang (Beijing Matsushita), Qian Xiaolan (Dongguan Fudi), and/or Yang Xiangjie
 9 (Fuzhou Chunghwa). Wang Ximin also believes he may have spoken with some of these
 10 representatives of other Chinese CRT producers by phone on a few occasions during the relevant
 11 period but cannot recall the specifics of any such phone calls. The subject matter of these
 12 communications and meetings involved information on Chinese CRT issues and market
 13 conditions. Irico believes these meetings were largely connected to the China CPT Industry
 14 Association.

15 **THIRD SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 5**

16 Irico reasserts and incorporates each of the General Objections, Objections to the
 17 Definitions and Instructions, and specific objections to Interrogatory No. 5 set forth above.

18 Subject to and without waiving the foregoing objections, Irico states as follows: Irico
 19 identifies the following additional meetings or communications with other producers of CRTs:

- 20 • December 9, 1999 meeting in Suzhou, People's Republic of China attended by
 21 Wang Zhaojie. Mr. Wang does not recall the content of the meeting but recalls
 22 that Song Shizhen accompanied him on this trip.
- 23 • January 13, 2000 meeting in Xi'an, People's Republic of China. Irico's records
 24 indicate that Yao Jun incurred a fee related to a CDT industry meeting at the Hotel
 25 Royal Xi'an on January 13, 2000. Following a reasonable search for other
 26 responsive information, Irico could not ascertain any details of this meeting.
- 27 • September 14, 2000 meeting in Changsha, People's Republic of China attended by
 28 Wang Zhaojie. Mr. Wang does not recall the content of the meeting but recalls

1 that it was organized by LG and also attended by Yang Zhen, a representative of
2 another CRT producer.

3 Irico also provides the following information based on its review of its travel
4 reimbursement records from the Relevant Period:

- 5 • Irico understands that Plaintiff alleges that a meeting between CRT producers took
6 place in Fuzhou, People's Republic of China on October 9, 1998. Irico's records
7 indicate that Wei Jianshe traveled to Fuzhou on or around this date. Following a
8 reasonable search for other responsive information, Irico could not confirm that
9 Mr. Wei met with competitors during this trip, nor could it confirm the details of
10 the meeting as alleged by plaintiffs.
- 11 • Irico understands that Plaintiff alleges that meetings between CRT producers took
12 place in Beijing, People's Republic of China on December 8 through 10, 1998.
13 Irico's records indicate that Li Weisheng and Ma Jinquan traveled to Beijing on or
14 around these dates. Following a reasonable search for other responsive
15 information, Irico could not confirm that Li Weisheng or Ma Jinquan met with
16 competitors during this trip, nor could it confirm the details of the meeting as
17 alleged by plaintiffs.
- 18 • Irico understands that Plaintiff alleges that a meeting between CRT producers took
19 place on June 22, 1999. Irico's records indicate that Li Weisheng traveled to
20 Shanghai, People's Republic of China on or around this date. Following a
21 reasonable search for other responsive information, Irico could not confirm that
22 Mr. Li met with competitors during this trip, nor could it confirm the details of the
23 meeting as alleged by plaintiffs.
- 24 • Irico understands that Plaintiff alleges that a meeting between CRT producers took
25 place in Nanjing, People's Republic of China on August 5, 1999. Irico's records
26 indicate that Wang Zhaojie traveled to Nanjing on or around this date. Mr. Wang
27 did not recall attending this alleged meeting. Following a reasonable search for
28 other responsive information, Irico could not confirm that Mr. Wang met with

competitors during this trip, nor could it confirm the details of the meeting as alleged by plaintiffs.

- Irico understands that Plaintiff alleges that a meeting between CRT producers took place in Tianjin, People's Republic of China on October 12, 1999. Irico's records indicate that Wang Zhaojie traveled to Tianjin on or around this date. Mr. Wang did not recall attending this alleged meeting. Following a reasonable search for other responsive information, Irico could not confirm that Mr. Wang met with competitors during this trip, nor could it confirm the details of the meeting as alleged by plaintiffs.
- Irico understands that Plaintiff alleges that a meeting between CRT producers took place in Nanjing, People's Republic of China on November 9, 2000. Irico's records indicate that Zhang Hushan traveled to Nanjing on or around this date. Following a reasonable search for other responsive information, Irico could not confirm that Zhang Hushan met with competitors during this trip, nor could it confirm the details of the meeting as alleged by plaintiffs.
- Irico understands that Plaintiff alleges that a meeting between CRT producers took place in Shanghai, People's Republic of China on November 21, 2006. Irico's records indicate that Shen Xiaolin traveled to Shanghai on or around this date. Following a reasonable search for other responsive information, Irico could not confirm that Shen Xiaolin met with competitors during this trip, nor could it confirm the details of the meeting as alleged by plaintiffs.

INTERROGATORY NO. 6

Identify each instance during the Relevant Time Period in which You or any other producer of CRT and/or CRT Products, including the named defendants in this coordinated proceeding, instituted a price increase or decrease for CRT and/or CRT Products, and for each such instance:

- (a) when such price increase or decrease was announced publicly;
- (b) when such price increase or decrease was implemented;

(c) the amount of the price increase or decrease;

(d) whether such price increase or decrease was withdrawn;

(e) each person with responsibility for implementing such price increase or decrease or its withdrawal; and

(f) any explanation given for such price increase or decrease or withdrawal.

RESPONSE TO INTERROGATORY NO. 6

Irigo reasserts and incorporates each of the General Objections and Objections to the Definitions and Instructions set forth above. Irigo also objects to the extent that this interrogatory calls for information regarding “any other producer” and thus seeks information outside of Irigo’s possession, custody or control.

Subject to and without waiving the objections stated above, Irigo responds that it will conduct a reasonable search for information responsive to this Interrogatory, if any, and supplement its response as necessary.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 6

Irigo reasserts and incorporates each of the General Objections, Objections to the Definitions and Instructions, and specific objections to Interrogatory No. 6 set forth above.

Subject to and without waiving the foregoing objections, Irigo states as follows: Irigo has not identified any systematic tracking of its CRT prices or information on the announcement, implementation, withdrawal, or explanations for CRT price changes during the Relevant Period. Irigo refers Plaintiff to the forthcoming spreadsheet(s) summarizing its original CRT and CRT Product sales records. Irigo further directs Plaintiff to documents IRI-CRT-00004295-303; IRI-CRT-00005349-400; IRI-CRT-00005401-515; IRI-CRT-00008843-880 IRI-CRT-00010133-204; IRI-CRT-00028958-964; IRI-CRT-00030226-241; and IRI-CRT-00030462-503 for the answer to this Interrogatory under Federal Rule of Civil Procedure 33(d). Irigo has conducted a reasonable search for other information responsive to this Interrogatory and has located no additional information beyond that described above.

INTERROGATORY NO. 7

Identify and describe all joint ventures, partnerships or other cooperative business

relationships, during the Relevant Time Period, relating to CRT and/or CRT Products between You and any other CRT or CRT Products producer.

RESPONSE TO INTERROGATORY NO. 7

Irico reasserts and incorporates each of the General Objections and Objections to the Definitions and Instructions set forth above. Irigo also objects that this interrogatory is duplicative and cumulative of other requests served on Irigo, including during jurisdictional discovery.

Subject to and without waiving the objections stated above, Irigo responds that it has already provided information responsive to this interrogatory to Plaintiff in its responses to jurisdictional discovery, including documents produced in response to Request No. 2 of Direct Purchaser Plaintiff Studio Spectrum, Inc.'s First Set of Requests for Production. Irigo will conduct a reasonable search for additional information responsive to this interrogatory, if any, and supplement its response as necessary.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 7

Irico reasserts and incorporates each of the General Objections, Objections to the Definitions and Instructions, and specific objections to Interrogatory No. 7 set forth above.

Subject to and without waiving the foregoing objections, Irigo states as follows:

Shenzhen Irigo-Huangqi Information Electronics Co. Ltd.

Shenzhen Irigo-Huangqi Information Electronics Co. Ltd. ("Irigo Huangqi") was formed on July 2, 1996 as a joint venture between Irigo Group and Hong Kong Riyili Co., Ltd. From July 2, 1996 to August 15, 2002, Irigo Group held 60% of the equity of Irigo Huangqi and Hong Kong Riyili Co., Ltd. held 40%. From August 15, 2002 until Irigo Huangqi's dissolution in 2006, Irigo Group held 33.13% of the company's equity, Gansu Languang Technology Corp. held 41.37%, and Hexin Technology Co., Ltd. held 25%. Irigo Huangqi was formally dissolved in 2006 and its remaining assets sold at auction.

Irico Huangqi's approved scope of business included the research, development, manufacture, and sale of monitors, peripheral equipment, and other electronic devices. Irigo Huangqi's primary business was the manufacture and sale of computer monitors, at least some of

1 which were manufactured using CDTs sold by Irico to Irico Huangqi. Irico Huangqi did not sell
 2 CRTs (except as integrated into monitors) and to Irico's knowledge did not export any products
 3 outside of China.

4 **Irigo (USA) Inc.**

5 Irigo (USA) Inc. ("Irigo USA") was incorporated in California on July 5, 1995 as a joint
 6 venture between Irigo (Hong Kong) Co. ("Irigo Hong Kong"), China National Electronics Import
 7 & Export Caihong Co. ("CNEIECC"), an independent state-owned entity, and two U.S.
 8 individuals named Xueli Huang and Mike Huang. Irigo Hong Kong held a 45.7% stake in Irigo
 9 USA, while CNEIECC held at 34.3% stake and Xueli and Mike Huang each held 10%. On
 10 February 26, 1998, Xueli and Mike Huang divested from Irigo USA, leaving Irigo Hong Kong
 11 and CNEIECC as the sole owners. In 1999, CNEIECC sold its ownership stake to Irigo Group.
 12 On March 9, 2000, Irigo Group authorized Liu Feng, General Manager of Irigo USA, to sell Irigo
 13 USA and return the resulting funds to Irigo Group. However, on April 10, 2001, Irigo
 14 understands that Liu Feng sold the entire company to California-based INB Co. and absconded
 15 with the proceeds. At the time of the transaction, Liu Feng was listed as the operator of INB Co.
 16 Then, on May 7, 2001, shortly after the transfer, Sun Xiaolin replaced Liu Feng as the registered
 17 operator of INB Co. Irigo USA was dissolved on February 28, 2003.

18 According to the Shaanxi Province People's Government decree establishing Irigo USA,
 19 the purpose of establishing Irigo USA was to expand provincial exports of electromechanical
 20 products to North America and to develop trade, investment, and cooperation between China and
 21 the United States. (*See* IRI-CRT-00003498.) Irigo understands from CNEIECC invoice records
 22 produced during jurisdictional discovery that CNEIECC sold small volumes of Irigo CRTs to
 23 Irigo USA on several occasions between 1996 and 1999. However, the invoices indicate that all
 24 such sales were shipped to countries other than the United States, including South Africa, Egypt,
 25 and China (*see* IRI-CRT-00003561 through -597) with no products delivered to the United States
 26 or any United States customer. Irigo is not aware of Irigo USA ever manufacturing, marketing,
 27 selling, or distributing any CRTs or CRT Products in the United States.

28 Irigo further directs Plaintiff to document IRI-CRT-00003490 for the answer to this

Interrogatory under Federal Rule of Civil Procedure 33(d).

INTERROGATORY NO. 8

Identify every channel used by You to sell, market, or distribute CRT and/or CRT Products during the Relevant Time Period. If You used different channels at different points within the Relevant Time Period, identify when You used each channel to sell, market, or distribute CRT and/or CRT Products.

RESPONSE TO INTERROGATORY NO. 8

Irico reasserts and incorporates each of the General Objections and Objections to the Definitions and Instructions set forth above. Irco further objects to the undefined term “channel” as vague, ambiguous, and subject to multiple interpretations. Irco also objects that this interrogatory is duplicative and cumulative of other requests served on Irco, including during jurisdictional discovery.

Subject to and without waiving the objections stated above, Irco responds that it has already provided information responsive to this interrogatory to Plaintiff in its responses to jurisdictional discovery, including Irco’s response to Interrogatory No. 18 of Indirect Purchaser Plaintiff’s First Set of Interrogatories. Irco will conduct a reasonable search for additional information responsive to this interrogatory, if any, and supplement its response as necessary.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 8

Irico reasserts and incorporates each of the General Objections, Objections to the Definitions and Instructions, and specific objections to Interrogatory No. 8 set forth above.

Subject to and without waiving the foregoing objections, Irco states as follows: From 1995 to 2004, Irco Group and Irco Display sold CRTs through the Irco Sales Company, an entity within Irco Group that was responsible at that time for sales of all companies under Irco Group. Sales during this period were made almost exclusively in China (99.2%) and negotiated by the Irco Sales Company and recorded under the name of the specific company that produced the CRT, *i.e.*, Irco Group or Irco Display. Neither Irco Group nor Irco Display exported any products to North America.

Following a corporate restructuring in 2004 that included the formation of Irco Group

1 Electronics Co. Ltd. (“Irico Electronics”), the Irico Sales Company transitioned to a sales
 2 department responsible for the sales of Irico Display and Irico Electronics, and Irico Group
 3 ceased the sale of CRTs under its own name. Starting at that time and continuing through the
 4 remainder of the Relevant Period, sales by Irico Display and Irico Electronics were made directly
 5 by each company. During this period, Irico Display and Irico Electronics also sold some CRTs
 6 internally to Xi’an Caihui Display Technology Co. Ltd. (“Xi’an Caihui”) and Xi’an Cairui
 7 Display Technology Co. Ltd. (“Xi’an Cairui”), subsidiaries of Irico Display and Irico Group,
 8 respectively, located within the Xi’an Export Processing Zone for the purpose of enjoying
 9 preferential tax policies on their exports. Neither Xi’an Caihui nor Xi’an Cairui exported any
 10 products to the United States during the Relevant Period.

11 **INTERROGATORY NO. 9**

12 Identify every channel used by you to purchase CRT and/or CRT Products during the
 13 Relevant Time Period. If You used different channels at different points within the Relevant Time
 14 Period, identify when You used each channel to purchase CRT or CRT Products.

15 **RESPONSE TO INTERROGATORY NO. 9**

16 Irico reasserts and incorporates each of the General Objections and Objections to the
 17 Definitions and Instructions set forth above. Irico further objects to the undefined term “channel”
 18 as vague, ambiguous, and subject to multiple interpretations.

19 Subject to and without waiving the objections stated above, Irico responds that it will
 20 conduct a reasonable search for information responsive to this Interrogatory, if any, and
 21 supplement its response as necessary.

22 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 9**

23 Irico reasserts and incorporates each of the General Objections, Objections to the
 24 Definitions and Instructions, and specific objections to Interrogatory No. 9 set forth above.

25 Subject to and without waiving the foregoing objections, Irico states as follows: Irico has
 26 conducted a reasonable search for information responsive to this Interrogatory and has located no
 27 information regarding purchases by Irico of CRTs or CRT Products.

INTERROGATORY NO. 10

Identify the CRT and/or CRT Products that You manufactured or produced for each month within the Relevant Time Period, including the brand name, product number, and intended use.

RESPONSE TO INTERROGATORY NO. 10

Irico reasserts and incorporates each of the General Objections and Objections to the Definitions and Instructions set forth above. Irigo also objects that this interrogatory is duplicative and cumulative of other requests served on Irigo, including during jurisdictional discovery.

Subject to and without waiving the objections stated above, Irigo responds that it has already provided information responsive to this interrogatory to Plaintiff in its responses to jurisdictional discovery, including Irigo's response to Interrogatory No. 16 of Indirect Purchaser Plaintiffs' First Set of Interrogatories. Irigo will conduct a reasonable search for additional information responsive to this interrogatory, if any, and supplement its response as necessary.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 10

Irico reasserts and incorporates each of the General Objections, Objections to the Definitions and Instructions, and specific objections to Interrogatory No. 10 set forth above.

Subject to and without waiving the foregoing objections, Irigo states as follows: Irigo refers Plaintiff to the forthcoming spreadsheet(s) summarizing its original CRT sales records, which contain information on specific sizes and types of CRTs sold by Irigo at specific times during the Relevant Period. Irigo further directs Plaintiff to documents IRI-CRT-00031179 through -31215 for the answer to this Interrogatory under Federal Rule of Civil Procedure 33(d).

INTERROGATORY NO. 11

Identify the CRT and/or CRT Products You sold, marketed, or distributed for each month within the Relevant Time Period, including the brand name, product number, and intended use.

RESPONSE TO INTERROGATORY NO. 11

Irico reasserts and incorporates each of the General Objections and Objections to the Definitions and Instructions set forth above. Irigo also objects that this interrogatory is

1 duplicative and cumulative of other requests served on Irico, including during jurisdictional
2 discovery.

3 Subject to and without waiving the objections stated above, Irico responds that it has
4 already provided information responsive to this interrogatory to Plaintiff in its responses to
5 jurisdictional discovery, including Irico's response to Interrogatory No. 17 of Indirect Purchaser
6 Plaintiffs' First Set of Interrogatories. Irico will conduct a reasonable search for additional
7 information responsive to this interrogatory, if any, and supplement its response as necessary.

8 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 11**

9 Irico reasserts and incorporates each of the General Objections, Objections to the
10 Definitions and Instructions, and specific objections to Interrogatory No. 11 set forth above.

11 Subject to and without waiving the foregoing objections, Irico states as follows: Irico
12 refers Plaintiff to the forthcoming spreadsheet(s) summarizing its original CRT sales records,
13 which contain information on specific sizes and types of CRTs sold by Irico at specific times
14 during the Relevant Period. Irico has conducted a reasonable search for other information
15 responsive to this Interrogatory and has located no additional information beyond that
16 summarized in the spreadsheet.

17 **INTERROGATORY NO. 12**

18 Provide Your sales of CRT and/or CRT Products to the United States and globally for
19 each month from January 1, 1991 to the present. For each month during this period, state the
20 volume of sales, the U.S. dollar value of sales, the unit sale price, the per unit cost to produce
21 CRT and/or CRT Products, the per unit cost to distribute CRT and/or CRT Products (including
22 overseas freight, tariff, customs, duties, inland freight, storage, insurance, dealer commissions),
23 and the per unit profit earned.

24 **RESPONSE TO INTERROGATORY NO. 12**

25 Irico reasserts and incorporates each of the General Objections and Objections to the
26 Definitions and Instructions set forth above. Irico further objects to this interrogatory as
27 overbroad and unduly burdensome as it requests information outside of Plaintiff's purported
28 "Relevant Time Period." Irico also objects that this interrogatory is duplicative and cumulative of

1 other requests served on Irico, including during jurisdictional discovery.

2 Subject to and without waiving the objections stated above, Irico responds that it has
3 already provided information responsive to this interrogatory to Plaintiff in its responses to
4 jurisdictional discovery, including Irico's responses to Request No. 9 of Direct Purchaser Plaintiff
5 Studio Spectrum, Inc.'s Requests for Production and Interrogatories No. 1 and 3 of Indirect
6 Purchaser Plaintiffs' Second Set of Interrogatories. Irico will conduct a reasonable search for
7 additional information responsive to this interrogatory, if any, and supplement its response as
8 necessary.

9 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 12**

10 Irico reasserts and incorporates each of the General Objections, Objections to the
11 Definitions and Instructions, and specific objections to Interrogatory No. 12 set forth above.

12 Subject to and without waiving the foregoing objections, Irico states as follows: Irico
13 refers Plaintiff to the forthcoming spreadsheet(s) summarizing its original CRT and CRT Product
14 sales records. Irico has conducted a reasonable search for other information responsive to this
15 Interrogatory and has located no additional information beyond that summarized in the
16 spreadsheet(s).

17 **INTERROGATORY NO. 13**

18 If You offered different prices to different markets, or on a spot market versus contract
19 basis, during the Relevant Time Period, so indicate in the statistical data supplied in response to
20 Interrogatory No. 6.

21 **RESPONSE TO INTERROGATORY NO. 13**

22 Irico reasserts and incorporates each of the General Objections and Objections to the
23 Definitions and Instructions set forth above. Irico further objects to the terms "markets," "spot
24 markets" and "contract basis" as vague, ambiguous, and subject to multiple interpretations.

25 Subject to and without waiving the objections stated above, Irico responds that it will
26 conduct a reasonable search for information responsive to this Interrogatory, if any, and
27 supplement its response as necessary.

28 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 13**

1 Irico reasserts and incorporates each of the General Objections, Objections to the
2 Definitions and Instructions, and specific objections to Interrogatory No. 13 set forth above.

3 Subject to and without waiving the foregoing objections, Irico states as follows: Irico
4 refers Plaintiff to the forthcoming spreadsheet(s) summarizing its original CRT and CRT Product
5 sales records. Irico has conducted a reasonable search for other information responsive to this
6 Interrogatory and has located no additional information beyond that summarized in the
7 spreadsheet(s).

8 **INTERROGATORY NO. 14**

9 Provide Your aggregate purchases (in both number of units and revenue in U.S. dollars) of
10 CRT and/or CRT Products for each month from January 1, 1991 to the present.

11 **RESPONSE TO INTERROGATORY NO. 14**

12 Irico reasserts and incorporates each of the General Objections and Objections to the
13 Definitions and Instructions set forth above. Irico further objects to this interrogatory as
14 overbroad and unduly burdensome as it requests information outside of Plaintiff's purported
15 "Relevant Time Period."

16 Subject to and without waiving the objections stated above, Irico responds that it will
17 conduct a reasonable search for information responsive to this Interrogatory, if any, and
18 supplement its response as necessary.

19 **SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 14**

20 Irico reasserts and incorporates each of the General Objections, Objections to the
21 Definitions and Instructions, and specific objections to Interrogatory No. 14 set forth above.

22 Subject to and without waiving the foregoing objections, Irico states as follows: Irico has
23 conducted a reasonable search for information responsive to this Interrogatory and has located no
24 information regarding purchases by Irico of CRTs or CRT Products.

25 **INTERROGATORY NO. 15**

26 Provide Your aggregate purchases (in units and U.S. dollars) of CRT or CRT Products
27 from each of the other named defendants in this coordinated proceeding, for the purpose of resale,
28 for each month during from January 1, 1991 to the present.

RESPONSE TO INTERROGATORY NO. 15

Irigo reasserts and incorporates each of the General Objections and Objections to the Definitions and Instructions set forth above. Irigo further objects to this interrogatory as overbroad and unduly burdensome as it requests information outside of Plaintiff's purported "Relevant Time Period."

Subject to and without waiving the objections stated above, Irigo responds that it will conduct a reasonable search for information responsive to this Interrogatory, if any, and supplement its response as necessary.

SUPPLEMENTAL RESPONSE TO INTERROGATORY NO. 15

Irigo reasserts and incorporates each of the General Objections, Objections to the Definitions and Instructions, and specific objections to Interrogatory No. 15 set forth above.

Subject to and without waiving the foregoing objections, Irigo states as follows: Irigo has conducted a reasonable search for information responsive to this Interrogatory and has located no information regarding purchases by Irigo of CRTs or CRT Products.

Dated: January 7, 2022

BAKER BOTTS L.L.P.

/s/ John M. Taladay

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IRICO DISPLAY DEVICES CO., LTD.*

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CERTIFICATE OF SERVICE**In re: Cathode Ray Tube (CRT) Antitrust Litigation - MDL No. 1917**

I declare that I am employed in Washington, District of Columbia. I am over the age of eighteen years and not a party to the within case; my business address is: Baker Botts L.L.P., 700 K Street, N.W., Washington, D.C. 20001.

On January 7, 2022, I served the following document(s) described as:

**IRICO DEFENDANTS' SIXTH SUPPLEMENTAL OBJECTIONS AND RESPONSES
TO DIRECT PURCHASER PLAINTIFFS'
FIRST SET OF INTERROGATORIES**

on the following interested parties in this action:

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[X] (BY ELECTRONIC MAIL) I caused such documents to be sent to the persons at the email addressed listed above. I did not receive, within a reasonable time after the transmission, any electronic message or other indication that the transmission was unsuccessful.

I declare under penalty of perjury under the laws of the District of Columbia that the foregoing is true and correct. Executed on January 7, 2022, in Washington, D.C.

/s/ Thomas E. Carter

Thomas E. Carter

EXHIBIT 34

EXHIBIT A



December 20, 2017

Certification

Park IP Translations

This is to certify that the attached translation is, to the best of my knowledge and belief, a true and accurate translation from Chinese into English of:
国家计委、国家经贸委关于发布《关于制止低价倾销工业品的不正当价格行为的规定》和
加强行业价格自律的通知

Hanna Kang

Project Manager

Project Number: BBLLP_1712_051

15 W. 37th Street 8th Floor
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Notification of the State Planning Commission and the State Economic and Trade Commission regarding
Issuing Regulations on Preventing Unfair Price Actions through Dumping of Industrial Products and
Strengthening Price Self-Discipline of Industries

Date: November 16, 1998 Source:

Bureau of Commodity Prices (Councils) of all provinces, autonomous regions, municipalities directly under the Central Government, and municipalities with independent planning status, the State Economic and Trade Commission, the Ministry of Information Industry, the Bureau of Domestic Trade, the State Administration of Metallurgical Industry, the State Administration of Building Materials, the State Administration of Nonferrous Metal Industry, the State Administration of Petrochemical Industry, the State Administration of Machinery Industry, the State Administration of Coal Industry, the State Administration of Textile Industry, and the State Administration of Light Industry,

To prevent unfair price actions through dumping, to protect fair, open and legitimate market competition, to maintain a normal price order, and to safeguard legitimate rights and interests of business operators and consumers, the State Planning Commission and the State Economic and Trade Commission formulated the Regulations on Preventing Unfair Price Actions through Dumping of Industrial Products (hereinafter the “Regulations”) pursuant to the Price Law of the People’s Republic of China and related laws and regulations of the state. The Regulations are hereby promulgated, and related issues are notified as follows:

1. The Regulations are important measures taken by the state to regulate prices on the market of industrial products and important rules to prevent dumping of industrial products, which have legal effect. The promulgation and implementation of the Regulations will have an important impact on maintaining normal production and operation orders of industrial enterprises, promoting a healthy development of the entire industry, and forming a good environment of competition. All places must seriously implement the Regulations, prevent dumping according to the law, standardize the market order, and standardize price behaviors of enterprises.

2. Relevant state agencies in charge of industries may study and propose industrial average production costs pursuant to Article 8 of the Regulations and related product dumping situations, which will be published regularly to the society upon approval by the State Planning Commission to act as an alert level for price self-discipline by enterprises, to restrict pricing actions of enterprises, and to prevent dumping by enterprises. For industrial products with prices decided by the government or prices under the guidance by the government, prices stipulated by the government must still be strictly implemented.

3. Competent departments in charge of prices at all levels must strengthen monitoring and inspection on implementation of the Regulations, seriously accept and process reported cases, and investigate and punish, strictly according to laws and regulations, dumping actions. Any actions involving those under Article 5 of the Regulations shall be investigated and punished as dumping actions according to the law.

4. Industrial organizations must accept work guidance from competent government departments in charge of prices, urge and guide enterprises to seriously implement the Regulations, help competent departments in charge of the industries measure and determine industrial average costs, promptly gather and summarize industrial cost and price information, and proactively play the role of industrial organizations in preventing dumping, organizing enterprises to perform price self-discipline, and coordinating relations between enterprises.

5. All regions and all related departments must organize manufacturing enterprises and marketing enterprises to seriously study the Regulations and consciously implement the Regulations. Prices of products sold by a manufacturing enterprise shall not be lower than industrial average production costs in principle, and the sales prices of a marketing enterprise shall not be lower than its purchasing costs. All manufacturing and marketing enterprises must promptly report on actions that violate the Regulations and constitute dumping actions, proactively cooperate with competent government departments in charge of prices in price monitoring and inspection, and practically prevent dumping actions.

Any situation or issue occurred during implementation of the Regulations will be coordinated by the State Planning Commission and the State Economic and Trade Commission according their respective scope of responsibilities.

Attachment: Regulations on Preventing Unfair Price Actions through Dumping of Industrial Products

Attachment:

Regulations on Preventing Unfair Price Actions through Dumping of Industrial Products

Article 1 To prevent unfair price actions through dumping, to protect fair, open and legitimate market competition, to maintain a normal price order, to protect the national interest, and to safeguard legitimate rights and interests of business operators and consumers, the Regulations are hereby formulated pursuant to the Price Law of the People's Republic of China (hereinafter the "Price Law") and other related laws of the state.

Article 2 The Regulations are applicable to industrial products with prices subject to the market.

Article 3 Any business operator engaging in production and sales of industrial products within the People's Republic of China shall implement the Regulations.

Article 4 The unfair price actions through dumping of industrial products herein refer to actions of a business operator to expel competitors or monopolize the market, such as a production enterprise sells industrial products at prices lower than the enterprise's production costs or a marketing enterprise sells industrial products at prices lower than the enterprise's purchasing costs, which disrupt normal production and operation orders and harm the national interest or legitimate rights and interests of other business operators. A production enterprise's production cost refers to the entire cost in a current month that the enterprise produces an industrial product, including manufacturing cost and to-be-allocated management expenses, financial expenses and sales expenses; a marketing enterprise's purchasing cost includes the purchasing cost in a current month and related shipment and miscellaneous expenses when the marketing enterprise carries an industrial product.

Article 5 The following actions are unfair price actions:

(I) Ex-factory prices of industrial products sold by a manufacturing enterprise are lower than its production costs, and sales prices of a marketing enterprise are lower than its purchasing costs;

(II) Actual ex-factory prices of a manufacturing enterprise are made to be lower than its production costs, and actual sales prices of a marketing enterprise are made to be lower than its purchasing costs by means of disguised price decreases, such as using high grade and high level products as low grade and low level products;

(III) Actual ex-factory prices of a manufacturing enterprise are made to be lower than its production costs, and actual sales prices of a marketing enterprise are made to be lower than its purchasing costs by means of discounts, subsidies, and the like. Means of discounts, subsidies, and the like include: (1) direct discounts to sales prices, (2) cash discount and price discount for prices at an interest higher than bank loan interests in the same period according to time length and amount of customer prepayments, (3) different price discounts offered to customers in different sales seasons for non-seasonal products, and (4) freight subsidies in certain amount for all or a part of shipping and miscellaneous expenses of customers;

(IV) Actual ex-factory prices of a manufacturing enterprise are made to be lower than its production costs, and actual sales prices of a marketing enterprise are made to be lower than its purchasing costs by means of unequal exchanges of goods and materials;

(V) Actual ex-factory prices of a manufacturing enterprise are made to be lower than its production costs, and actual sales prices of a marketing enterprise are made to be lower than its purchasing costs by means of using goods and materials to pay back debts other than bankruptcy according to the law;

(VI) Actual ex-factory prices of a manufacturing enterprise are made to be lower than its production costs, and actual sales prices of a marketing enterprise are made to be lower than its purchasing costs by means of issuing invoices in amounts less than those of shipping goods or not issuing invoices;

(VII) Actual ex-factory prices of a manufacturing enterprise are made to be lower than its production costs, and actual sales prices of a marketing enterprise are made to be lower than its purchasing costs by means of disguised price decreases, such as providing extra quantities, bulk discounts, and the like;
(VIII) Actual ex-factory prices of a manufacturing enterprise are made to be lower than its production costs, and actual sales prices of a marketing enterprise are made to be lower than its purchasing costs by other means.

Article 6 The following two situations are not treated dumping actions:

(I) A manufacturing enterprise or a marketing enterprise lowers prices of seasonal industrial products and overstocked industrial products to below costs pursuant to Article 14, Paragraph 2 of the Price Law;
(II) Due to relatively high costs, a manufacturing enterprise or a marketing enterprise sells industrial products at prices lower than the enterprise's costs but not lower than the industrial average costs, and without harming the national interest or legitimate rights and interests of other business operators.

Article 7 When a manufacturing enterprise or a marketing enterprise lowers prices of seasonal industrial products and overstocked industrial products for sales pursuant to Article 14, Paragraph 2 of the Price Law, the prices must be clearly labelled according to the stipulated items.

Article 8 According to dumping situations in an industry, a state competent department in charge of the industry may send a proposal to the competent department of the State Council in charge of prices that industrial average costs need to be published, and as entrusted by the competent department of the State Council in charge of prices, measures, determines, and regularly publishes industrial average costs thereof.

Article 9 Manufacturing enterprises or marketing enterprises shall use costs plus reasonable profits as a goal when deciding prices of industrial products and participate in market competition with open, fair and legitimate prices. Ex-factory prices of a manufacturing enterprise shall not be lower than the industrial average production costs in principle; and sales prices of industrial products sold by a marketing enterprise shall not be lower than normal purchasing costs. Manufacturing enterprises or marketing enterprises shall decide specific prices by following the principle of pricing according quality and according to standards, specifications and levels of industrial products promulgated by the state, and prohibit sales by mixing grades or selling as gradeless goods.

Article 10 In the case where a manufacturing enterprise sells industrial products at prices lower than industrial average production costs or a marketing enterprise sells industrial products at prices lower than purchasing costs to disrupt the production and operation orders and harm rights and interests of other business operators, any organization or individual may report the case to a competent government department in charge of prices above the provincial level, and the competent government department in charge of prices may conduct investigation into the case to determine whether those are indeed dumping actions.

Article 11 A reporting party shall truthfully report a case by providing factual information regarding unfair price actions of a reported party and details of damages. A reported manufacturing enterprise or marketing enterprise shall cooperate with the competent government department in charge of prices in investigations by truthfully providing requested books, bills, vouchers and other materials.

Article 12 In the case where a reported manufacturing enterprise or marketing enterprise is found through the investigation to truly have one of the unfair price actions listed in Article 5 of the Regulations, the competent government department in charge of prices may order the manufacturing enterprise or the marketing enterprise to correct the action and impose the following punishments according to the Price Law and specific situations: (1) issue a warning; (2) impose a fine; (3) order the manufacturing enterprise or the marketing enterprise to suspend business for rectification; and (4) file a request with an administration for industry and commerce for revocation of its business license.

Article 13 A manufacturing enterprise or a marketing enterprise of industrial products shall establish and improve internal price management, and cost and expense accounting systems to truthfully and accurately record and approve production and purchasing costs of the industrial products, and no fraud will be tolerated.

Article 14 Competent departments at all levels in charge of industries and trade associations of industries shall urge operators of industrial products in respective industries to implement the Regulations. Manufacturing enterprises with sales prices lower than industrial average production costs and marketing enterprises with sales prices lower than purchasing costs may be advised for correction; in the case where an enterprise refuses to accept advice and is suspected of dumping, the enterprise may be directly reported to a competent government department in charge of prices.

Article 15 For actions of sales by decreasing prices that severely disrupt the market order and are difficult to verify individual costs thereof within a short period, the competent department of the State Council in charge of prices may determine whether those actions are dumping actions by temporarily and directly using industrial average production costs and a reasonable range of price decrease.

Article 16 The competent department of the State Council in charge of prices will work with related departments to formulate, according to the Regulations, measures to determine cost of industrial products that are dumped.

Article 17 Imported industrial products shall be subject to the Anti-Dumping and Anti-Subsidy Regulations of the People's Republic of China.

Article 18 The Regulations shall be subjected to interpretation by the State Planning Commission.

Article 19 The Regulations shall go into effect as of November 25, 1998.

国家计委、国家经贸委关于发布《关于制止低价倾销工业品的不正当价格行为的规定》和加强行业价格自律的通知

日期: 1998-11-16 来源:

各省、自治区、直辖市及计划单列市物价局（委员会）、经贸委，信息产业部、国内贸易局、国家冶金局、国家建材局、国家有色局、国家石化局、国家机械局、国家煤炭局、国家纺织局、国家轻工局：

为制止低价倾销的不正当价格竞争行为，维护公平、公开、合法的市场竞争和正常的价格秩序，保护经营者、消费者的合法权益，根据《中华人民共和国价格法》及国家有关法律、法规，国家计委、国家经贸委制定了《关于制止低价倾销工业品的不正当价格行为的规定》（以下简称《规定》），现予发布，并将有关事项通知如下：

一、《规定》是国家对工业品市场价格进行调控所采取的重要措施，是制止低价倾销工业品的重要规章，具有法律效力。《规定》的发布实施，对维持正常的工业企业生产经营秩序，促进整个工业行业的健康发展，形成良好的竞争环境将产生重要影响。各地要认真贯彻执行《规定》，依法制止低价倾销，规范市场秩序，规范企业的价格行为。

二、国家有关行业主管部门可根据《规定》第八条的有关规定和有关产品低价倾销情况，研究提出有关具体品种的行业平均成本，经国家计委同意后，定期向社会发布，作为企业价格自律的警戒线，以约束企业定价行为，防止企业低价倾销。实行政府定价、政府指导价的工业品，仍要严格按照政府规定的价格执行。

三、各级价格主管部门要加强对《规定》执行情况的监督检查，认真受理举报案件，从严查处低价倾销行为。凡涉及《规定》第五条所列行为的，均应作为低价倾销行为依法进行查处。

四、行业组织要接受政府价格主管部门的工作指导，督促、指导企业认真执行《规定》，协助行业主管部门测定行业平均成本，及时掌握、汇总行业成本、价格信息，积极发挥行业组织在制止低价倾销、组织企业进行价格自律和协调企业之间关系等方面的作用。

五、各地区和各有关部门要组织生产企业和经销企业认真学习《规定》，自觉执行《规定》。生产企业销售的产品价格原则上不应低于行业平均生产成本，经销企业的销售价格不应低于其进货成本。各生产、经销企业对违反《规定》，构成低价倾销行为的要及时举报，并积极配合政府价格主管部门进行价格监督检查，切实制止低价倾销行为。

《规定》执行中出现的情况和问题由国家计委、国家经贸委根据各自的工作职责范围进行协调。

附：《关于制止低价倾销工业品的不正当价格行为的规定》

附：

关于制止低价倾销工业品的

不正当价格行为的规定

第一条 为制止低价倾销工业品的不正当价格行为，维护公平、公开、合法的市场竞争和正常的价格秩序，维护国家利益，保护经营者和消费者的合法权益，根据《中华人民共和国价格法》（以下简称《价格法》）及国家其他有关法律，制定本规定。

第二条 本规定适用于实行市场调节价格的工业品。

第三条 凡在中华人民共和国境内从事生产、销售工业品的经营者，均应执行本规定。

第四条 本规定所称低价倾销工业品的不正当价格行为是指经营者为了排挤竞争对手或独占市场，生产企业以低于本企业生产成本销售工业品，经销企业以低于本企业进货成本销售工业品，扰乱正常的生产经营秩序，损害国家利益或者其他经营者合法权益的行为。生产企业生产成本是指企业生产该工业品的当月完全成本，包括制造成本和应分摊的管理费用、财务费用、销售费用；经销企业进货成本包括经销企业经营该工业品时的当月进货价格和相关运杂费。

第五条 以下行为属于低价倾销不正当价格行为：

（一）生产企业销售工业品的出厂价格低于本企业生产成本的，经销企业的销售价格低于本企业进货成本的；

（二）采用高规格、高等级充抵低规格、低等级等手段，变相降低价格，使生产企业实际出厂价格低于本企业生产成本，经销企业实际销售价格低于本企业进货成本的；

（三）通过采取折扣、补贴等手段，使生产企业实际出厂价格低于本企业生产成本，经销企业实际销售价格低于本企业进货成本的。折扣、补贴等手段包括：（1）对销售价格直接折扣，（2）根据用户提前付款的时间长短和金额多少的不同，以高于银行同期贷款利率，在价格上给予现金折扣和价格折让，（3）对非季节性产品在不同销售季节对用户给予不同价格折让，（4）对用户全部或部分承担运杂费或给予一定数量的运费补贴；

（四）进行非对等物资串换，使生产企业实际出厂价格低于本企业生产成本，经销企业实际销售价格低于本企业进货成本的；

（五）除依法实行破产外，通过以物抵债，使生产企业实际出厂价格低于本企业生产成本，经销企业实际销售价格低于本企业进货成本的；

（六）采取多发货少开票或不开票方式经销，使生产企业实际出厂价格低于本企业生

产成本，经销企业实际销售价格低于本企业进货成本的；

（七）通过多给数量、批量优惠等方式，变相降低价格，使生产企业实际出厂价格低于本企业生产成本，经销企业实际销售价格低于本企业进货成本的；

（八）采用其他方式使生产企业实际出厂价格低于本企业生产成本，经销企业实际销售价格低于本企业进货成本的。

第六条 以下两种情况不视为低价倾销行为：

（一）生产企业或经销企业依据《价格法》第十四条第二款规定，以低于成本的价格降价处理季节性、积压性工业品的；

（二）生产企业或经销企业由于成本较高，以低于本企业成本但不低于行业平均成本的价格销售，未对国家利益或者其他经营者利益造成损害的。

第七条 生产企业或经销企业依据《价格法》第十四条第二款规定，对季节性工业品、积压工业品降价出售时，必须按规范的项目明码标价。

第八条 国家工业行业主管部门可根据本行业产品低价倾销情况，向国务院价格主管部门提出需发布行业平均成本的工业品种建议，并接受国务院价格主管部门的委托，测定和定期发布其行业平均生产成本。

第九条 生产企业或经销企业制定工业品价格应以成本加合理利润为目标，以公开、公正、合法的价格参与市场竞争。生产企业的工业品出厂价格原则上不应低于行业平均生产成本；经销企业的工业品销售价格不应低于正常进货成本。生产企业或经销企业应当遵循按质论价原则，按照国家颁布的工业品标准和规格、等级制定具体价格，禁止混等和按统货出售。

第十条 生产企业以低于行业平均生产成本或经销企业以低于进货成本销售工业品，造成生产经营秩序混乱，并损害了其他经营者权益，任何单位和个人都可以向省级以上政府价格主管部门举报，政府价格主管部门可以根据情况立案调查，以确定是否属低价倾销行为。

第十一条 举报人应据实反映情况，提供被举报人不正当价格行为的事实材料及被损害情况。被举报的生产企业或经销企业应当配合政府价格主管部门调查，如实提供所需的帐簿、单据、凭证以及其它资料。

第十二条 经调查认定，被举报的生产企业或经销企业确有本规定第五条所列不正当价格行为之一的，政府价格主管部门可以责令其改正，并视具体情况依据《价格法》进行下列处罚：（1）予以警告；（2）处以罚款；（3）责令其停业整顿；（4）提请工商行政

管理

机构吊销其营业执照。

第十三条 工业品生产企业或经销企业应当建立、健全内部价格管理及成本、费用核算制度，据实、准确记录与核定工业品的生产成本及进货成本，不得弄虚作假。

第十四条 各级工业行业主管部门、工业行业协会要督促本行业工业品经营者执行本规定。对生产企业低于行业平均生产成本销售的、经销企业低于正常进货成本销售的，可以规劝其改正；对于不接受规劝，有低价倾销嫌疑的，可以向政府价格主管部门直接举报。

第十五条 国务院价格主管部门对严重扰乱市场秩序，短期内难以核实其个别成本的降价销售行为，可临时采取直接依据行业平均成本和合理的下浮幅度的办法认定其是否为低价倾销行为。

第十六条 国务院价格主管部门将会同有关部门依据本规定制定低价倾销工业品的成本认定办法。

第十七条 进口工业品适用《中华人民共和国反倾销和反补贴条例》。

第十八条 本规定由国家计委负责解释。

第十九条 本规定自 1998 年 11 月 25 日起执行。

EXHIBIT 35

EXHIBIT D



December 20, 2017

Certification

Park IP Translations

This is to certify that the attached translation is, to the best of my knowledge and belief, a true and accurate translation from Chinese into English of:
关于报送彩电、彩管行业成本资料的通知

A handwritten signature in black ink, appearing to read 'Hanna Kang'.

Hanna Kang

Project Manager

Project Number: BBLLP_1712_051

15 W. 37th Street 8th Floor
New York, NY 10018
212.581.8870
ParkIP.com

File No.	Catalogue No.	Record No.	Sequence No.
	[illegible]	2	2

P 1

Document of the Ministry of Information Industry
Xin Bu Yun [1999] No. 121

Notification of Reporting Cost Information for Color TV and Color CRT Industry

To all relevant enterprises:

To prevent actions of unfair price competition through dumping in the color TV and color CRT industry, to protect fair, open and legitimate market competition, to maintain a normal price order, and to safeguard legitimate rights and interests of business operators and consumers, this Ministry plans to estimate and publish average industry production costs of some types of color TVs and color CRTs through consultation with and upon approval by the State Planning Commission pursuant to instructions by leaders of the State Council and the Regulations on Preventing Unfair Price Actions through Dumping of Industrial Products Ji Jia Ge (1998) No. 2332 by the State Planning Commission and the State Economic and Trade Commission. To successfully complete this task, this Ministry hereby sends you a notification of related requirements as follows:

1. Enterprises on the list (see Attached Table 1) shall fill in the attached Tables 2 and 3 with their respective production and cost information of 21" and 25" color TVs or color CRTs in the 4th quarter of 1998, and report the information by February 10, 1999. Information for each subsequent quarter shall be reported within 10 days after said each quarter. Each enterprise shall designate a specific person to be in charge of this task and periodically report relevant information. This Ministry will rigorously keep confidentiality of the information reported by enterprises to prevent leakage of business secrets of the enterprises.

- 1 -

Electronic Industry Archives	
Copy	No. 2017049

2

2. On the basis of production and cost information reported by the enterprises, this Ministry will estimate and publish average industry production costs of some of color TVs and color CRTs. For enterprises with sales prices lower than the average industry production costs, this Ministry will work with the State Planning Commission and other departments to perform investigations pursuant to the Regulations on Preventing Unfair Price Actions through Dumping of Industrial Products. Enterprises found through the investigation to truly have actions of unfair price competition through dumping will be punished.

3. The Department of Economic System Reform and Economic Operations of this Ministry is in charge of this task of estimation and publication of average industry production costs for the color TV and color CRT industry.

Telephone: 010-68208341, 68208342.

Fax: 010-68277286

Contacts: Fusuo Bao, Tingru Liu

Address: No. 27 Wanshou Road, Beijing

Zip code: 100846

This Notification shall go into effect as of the date of issuance.

Attachments: 1. List of enterprises to report production and cost information of color TVs or color CRTs

2. Table of quarterly production and cost information of color TVs

3. Table of quarterly production and cost information of color CRTs

Keywords:
Cc
Information

(No text on this page)

February 3, 1999
(Seal of the Ministry of Information Industry of the
People's Republic of China)

Keywords: color TV, color CRT, cost, notification

Cc: The State Planning Commission and the State Economic and Trade Commission.

The General Office of the Ministry of Information Industry

Printed and distributed on
February 3, 1999

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Attachment 1

List of enterprises to report production and cost information of color TVs or color CRTs

1. Sichuan Changhong Electronic Group Co., Ltd.
2. Konka Group Co., Ltd.
3. TCL Group Co., Ltd.
4. Shenzhen Chuangwei-RGB Electronics Co., Ltd.
5. Qingdao Hisense Group Co., Ltd.
6. Xiamen Overseas Chinese Electronic Co., Ltd.
7. Panda Electronics Group Co., Ltd.
8. Shanghai Guandong (Group) Co., Ltd.
9. Beijing Peony Electronic Group Co., Ltd.
10. Guangdong Gaoluhua TV Co., Ltd.
11. Caihong Group Corporation
12. Beijing Matsushita Color CRT Co., Ltd.
13. Shanghai Novel Color Picture Tube Co., Ltd.
14. Huafei Color Display Systems Co., Ltd.
15. Shenzhen SEG Hitachi Display Component Co., Ltd.
16. Guangdong Color Picture Tube Co., Ltd.
17. Lejin Shuguang Electronic Co., Ltd.
18. Shenzhen Samsung Electronic Tube Co., Ltd.

Attachment 2 Table of quarterly production and cost information of color TVs

Attachment 2

Table of quarterly production and cost information of color TVs

Filled by (company seal affixed)

Unit: Yuan

	Size	Production quantity (unit)	Sales quantity (unit)	Unit cost					Ex-factory price			Inventory at end of quarter (unit)
				Manufacturing cost	Financial expenses	Sales expenses	Management expenses	Total cost	Sales tax and surtaxes	Average ex-factory price	Lowest ex-factory price	
Verified number for the previous quarter	21"											
	25"											
Predicted number for the current quarter	21"											
	25"											

Filled by:

Telephone:

Filled on:

Instructions: if there are different models for the same size, the model with a lower cost shall be filled in the table.

6

Attachment 3

Table of quarterly production and cost information of color CRTs

Filled by (company seal affixed)

Unit: Yuan

	Size	Production quantity (piece)	Sales quantity (piece)	Unit cost					Ex-factory price			Inventory at end of quarter (piece)
				Manufacturing cost	Financial expenses	Sales expenses	Management expenses	Total cost	Sales tax and surtaxes	Average ex-factory price	Lowest ex-factory price	
Verified number for the previous quarter	21"											
	25"											
Predicted number for the current quarter	21"											
	25"											

Filled by:

Telephone:

Filled on:

Instructions: if there are different models for the same size, the model with a lower cost shall be filled in the table.

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7/1

信息产业部文件

信部运[1999]121号

关于报送彩电、彩管行业成本资料的通知

各有关企业：

为制止彩电、彩管行业低价倾销的不正当价格行为，维护公平、公开、合法的市场竞争和正常的价格秩序，保护经营者、消费者的合法权益，根据国务院领导的批示和国家计委、国家经贸委计价格(1998)2332号《关于制止低价倾销工业品的不正当价格行为的规定》，经商国家计委同意，我部拟对彩电、彩管部分品种测定和发布其行业平均生产成本。为做好这项工作，现将有关要求通知如下：

1、列入名单的企业(见附表一)要在99年2月10日前，将本企业21英寸、25英寸彩电或彩管98年四季度的产量、成本资料按附表二、三的内容填报后上报。以后每季度后10日内及时

- 1 -

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上报。各企业要设专人负责此项工作,并定期上报有关资料。我部将对企业上报资料严格保密,以避免企业商业机密的泄漏。

(此页:

2、在企业上报产量、成本资料的基础上,我部将测算出部分彩电、彩管的行业平均生产成本,并予以公布。对低于行业平均生产成本销售的企业,我部将配合国家计委等部门,按照《关于制止低价倾销工业品的不正当价格行为的规定》进行调查。对经调查认定确有低价倾销不正当价格行为的企业,将进行处罚。

3、我部经济体制改革与经济运行司负责彩电、彩管行业平均生产成本的测算与发布工作。

联系电话:010—68208341、68208342。

传真:010—68277286

联系人:暴福锁 刘延儒

地址:北京万寿路27号

邮编:100846

本通知自下发之日起执行。

附件:一、上报彩电、彩管成本、价格资料的企业名单

二、彩电季度成本、价格资料表

三、彩管季度成本、价格资料表

主题词

抄 主

信息

3

(此页无正文)

资
密

部
业
照
调
将

业



主题词:彩电 彩管 成本 通知

抄 送:国家计委,国家经贸委。

信息产业部办公厅

一九九九年二月三日印发

附件一

上报彩电、彩管成本、价格资料企业名单

- 1、四川长虹电子集团公司
- 2、康佳集团股份有限公司
- 3、TCL集团有限公司
- 4、深圳创维—RGB电子有限公司
- 5、青岛海信集团公司
- 6、厦门华侨电子企业有限公司
- 7、熊猫电子集团股份有限公司
- 8、上海广电(集团)有限公司
- 9、北京牡丹电子集团公司
- 10、广东高路华电视机有限公司
- 11、彩虹集团公司
- 12、北京松下彩管有限公司
- 13、上海永新彩色显象管有限公司
- 14、华飞彩色显示系统有限公司
- 15、深圳赛格日立显示器件有限公司
- 16、广东彩色显象管有限公司
- 17、乐金曙光电子有限公司
- 18、深圳三星电管有限公司

彩色电视机季度成本、价格资料表

附件二

彩色电视机季度成本、价格资料表

单位:元

填报单位(加盖公章):

	规格	生产数量 (台)	销售数量 (台)	单位成本				出厂价格				季末 库存 (台)
				制造 成本	财务 费用	销售 费用	管理 费用	完全 成本	销售税金 及附加	平均 出厂价	最低 出厂价	
上季核定	21英寸											
	25英寸											
本季预测	21英寸											
	25英寸											

填报人:

联系电话:

填报时间:

填表说明:同一规格中如有不同型号,按成本低的型号填写。

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附件三

彩色显象管季度成本、价格资料表

填报单位(加盖公章):

单位:元

	规格	生产数量 (只)	销售数量 (只)	单 位 成 本					出 厂 价 格			季末 库存 (只)
				制造 成本	财务 费用	销售 费用	管理 费用	完全 成本	销售税金 及附加	平均 出厂价	最低 出厂价	
上 季 核 定	21英寸											
	25英寸											
本 季 预 测	21英寸											
	25英寸											

填报人:

联系电话:

填报时间:

填表说明:同一规格中如有不同型号,按成本低的型号填写。

EXHIBIT 36

EXHIBIT E



December 20, 2017

Certification

Park IP Translations

This is to certify that the attached translation is, to the best of my knowledge and belief, a true and accurate translation from Chinese into English of:
关于发布彩色电视机部分品种行业平均生产成本的通知

A handwritten signature in black ink, appearing to read 'Hanna Kang'.

Hanna Kang

Project Manager

Project Number: BBLLP_1712_051

15 W. 37th Street 8th Floor
New York, NY 10018
212.581.8870
ParkIP.com

File No.	Catalogue No.	Record No.	Sequence No.
	[illegible]	14	3

Document of the Ministry of Information Industry
Xin Bu Yun [2000] No. 789

Notification of Publishing Industrial Average Production Costs for Some Types of Color TVs

To color TV manufacturing enterprises:

To prevent actions of unfair price competition in the color TV industry and maintain a normal market order, the industrial average production costs of three types of color TVs, i.e. 21 inches, 25 inches, and 29 inches, are hereby published (see the attached table for details) pursuant to the Trial Measures to Stop Unfair Price Competition Regarding Color CRTs and Color TVs by the State Planning Commission and the Ministry of Information Industry. All color TV manufacturing enterprises are asked to seriously implement the costs. In the case where a manufacturing enterprise sells the products at prices lower than the published industrial average production costs to cause market disorders and harm the interests of other manufacturing enterprises, a harmed enterprise may file a report with the State Planning Commission or a competent department in charge of prices of a province, autonomous region or municipality directly under the Central Government. In the case where it is confirmed through investigation that there is indeed an action of unfair price competition, a competent government department in charge of prices shall order the responsible party to correct and impose penalties according to specific situations.

- 1 -

Electronic Industry Archives	
Copy	No. 2017053

This Notification shall go into effect as of the date of issuance.

Attached Table: Industrial average production costs for Some Sizes of Color TVs

August 25, 2000
(Seal of the Ministry of Information Industry of the
People's Republic of China)

Keywords: color TV, production cost, notification

Cc: The State Planning Commission, the State Economic and Trade Commission, and the State
Administration for Industry and Commerce.

The General Office of the Ministry of Information Industry

Printed and distributed on
August 25, 2000

Attached Table: Industrial average production costs for Some Sizes of Color TVs

21"	970 Yuan/set
25"	1420 Yuan/set
29"	2170 Yuan/set

全宗号	目录号	案卷号	件号
		2000-2	14 3

信息产业部文件

信部运〔2000〕789号

关于发布彩色电视机 部分品种行业平均生产成本的通知

各彩电生产企业：

为了制止彩色电视机行业的不正当价格竞争行为，维护正常的市场秩序，按照国家计委、信息产业部《关于制止彩色显像管、彩色电视机不正当价格竞争的试行办法》，现将21英寸、25英寸、29英寸三种规格彩电的行业平均成本予以发布（详见附表）。请各彩电生产企业认真贯彻执行。生产企业以低于发布的行业平均成本销售造成市场秩序混乱、损害其它生产企业利益的，受损害的企业可以

— 1 —

向国家计委或者省、自治区、直辖市价格主管部门举报。
对经调查认定,确有不正当价格竞争行为的由政府价格主
管部门责令改正,并视具体情况进行处罚。

本通知自发布之日起执行。

附表:部分规格彩电行业平均生产成本



主题词:彩电 生产成本 通知

抄 送:国家计委,国家经贸委,国家工商行政管理局。

信息产业部办公厅

二〇〇〇年八月二十五日印发

附表：

部分规格彩电行业平均生产成本

21英寸	970元／台
25英寸	1420元／台
29英寸	2170元／台

EXHIBIT 37



January 10, 2022

Certification

Welocalize Translations

TRANSLATOR'S DECLARATION:

I, Johnson Wong, hereby declare:

That I possess advanced knowledge of the Chinese and English languages. The attached Chinese into English translation has been translated by me and to the best of my knowledge and belief, it is a true and accurate translation of: IRI-CRT-00031457

A handwritten signature in black ink, appearing to read "Johnson Wong", written over a horizontal line.

Johnson Wong

Project Number: BBLLP_2201_P0001



15 W. 37th Street 4th Floor
New York, NY 10018
212.581.8870

IRICO Group Corporation

C06 Enterprise Management

Notice on Trial Measures to Curb Unfair Price Competition Regarding Color CRTs and Color TVs and
Notice on Publishing Industrial Average Production Costs of Some Types of Color CRTs and Color TVs

From March 1999 to April 1999

Retention period

Long term

There are ten pages in this volume

Filing No.

Whole volume No.	Catalog No.	Docket No.

CONFIDENTIAL

IRI-CRT-00031457

In-Volume Catalog

S.N.	Document author	Original document No.	Document receipt No.	Confidentiality level	Document date	Title	No. of Page
1	Ministry of Information Industry	Ji Jia Ge (99) 264	46		March 15, 1999	Notice of the State Planning Commission and the Ministry of Information Industry on Distributing Trial Measures to Curb Unfair Price Competition Regarding Color CRTs and Color TVs	1-7
2	Id.	Xin Yun Bu (99) 287	51		April 2, 1999	Notice on Publishing Industrial Average Production Costs of Some Types of Color CRTs and Color TVs	8-10

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IRI-CRT-00031458

Mr. Wu: please review this document. April 15, 1999

001

Official document	Receipt No. 46 April 14, 1999
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From the first page of China Electronics Daily, April 13, 1999

Notice on Publishing Industrial Average Production Costs of Some Types of Color CRTs and Color TVs

Xin Bu Yun [1999] No. 287

To curb unfair price competition in the color CRT and color TV industry and maintain normal market order, we have estimated the industrial average production costs of two types of color CRTs and color TVs, i.e. 21-inch and 25-inch, pursuant to the Trial Measures to Curb Unfair Price Competition Regarding Color CRTs and Color TVs by the State Planning Commission and the Ministry of Information Industry, the cost materials submitted by major manufacturers of color CRTs and color TVs, and the results of survey on typical enterprises. The estimation is hereby published (see the attached table). All color CRT and color TV manufacturers are asked to conscientiously implement the estimation. In case where a manufacturer sells its products at the prices lower than the published industrial average production costs, causing market disorders and harming the interests of other manufacturers, a harmed enterprise may file a report with the State Planning Commission or a competent department in charge of prices of a province, autonomous region and municipality directly under the Central Government. If it is found through investigation that, such manufacturer indeed engages in unfair price competition, a competent government department in charge of prices shall order such manufacturer to correct and impose penalties on it in light of the specific circumstance.

This Notice will be implemented from the date of publication.

Attached Table: Industrial Average Production Costs of Some Sizes and Types of Color CRTs and Color TVs

21" Color CRT	RMB440/piece	21" Color TV	RMB1,130/set
25" Color CRT	RMB720 /piece	25" Color TV	RMB1,700/set

Ministry of Information Industry, April 2, 1999

IRICO Group Corporation Document Review List

Group's proposed opinion: Mr. Wu: please review this document. April 15, 1999

Department's proposed opinion:

Leader's instructions:

Circulation time	Signature	Circulation time	Signature	Circulation time	Signature	Circulation time	Signature

Required completion time

Processing result
Fax sent April 15, 1999

Signature from the leader of the handling organization

CONFIDENTIAL

IRI-CRT-00031459

Mr. Wu: please review this document. April 15, 1999

001

Official document	Receipt No. 46 April 14, 1999
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From the first page of China Electronics Daily, April 13, 1999

Notice on Publishing Industrial Average Production Costs of Some Types of Color CRTs and Color TVs

Xin Bu Yun [1999] No. 287

To curb unfair price competition in the color CRT and color TV industry and maintain normal market order, we have estimated the industrial average production costs of two types of color CRTs and color TVs, i.e. 21-inch and 25-inch, pursuant to the Trial Measures to Curb Unfair Price Competition Regarding Color CRTs and Color TVs by the State Planning Commission and the Ministry of Information Industry, the cost materials submitted by major manufacturers of color CRTs and color TVs, and the results of survey on typical enterprises. The estimation is hereby published (see the attached table). All color CRT and color TV manufacturers are asked to conscientiously implement the estimation. In case where a manufacturer sells its products at the prices lower than the published industrial average production costs, causing market disorders and harming the interests of other manufacturers, a harmed enterprise may file a report with the State Planning Commission or a competent department in charge of prices of a province, autonomous region and municipality directly under the Central Government. If it is found through investigation that, such manufacturer indeed engages in unfair price competition, a competent government department in charge of prices shall order such manufacturer to correct and impose penalties on it in light of the specific circumstance.

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25" Color CRT	RMB720 /piece	25" Color TV	RMB1,700/set

Ministry of Information Industry, April 2, 1999

Notice on Trial Measures to Curb Unfair Price Competition Regarding Color CRTs and Color TVs

Bureaus (Commissions) of Commodity Prices and Competent Departments in Charge of the Electronic Industry of provinces, autonomous regions, municipalities directly under the Central Government, and municipalities specifically designated in the state plan:

To curb unfair price competition and maintain normal market competition order, the State Planning Commission and the Ministry of Information Industry have formulated the Trial Measures to Curb Unfair Price Competition Regarding Color CRTs and Color TVs (hereinafter referred to as the "Measures"), which are hereby distributed for your earnest implementation. Related issues are hereby notified as follows:

-1-

CONFIDENTIAL

IRI-CRT-00031460

Mr. Wu: please review this document. April 15, 1999
001

Official document	Receipt No. 46 April 14, 1999
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National Development Planning Commission Document
Ministry of Information Industry

Ji Jia Ge [1999] No. 264

**Notice of the State Planning Commission and the Ministry of Information Industry on
Distributing Trial Measures to Curb Unfair Price Competition Regarding Color CRTs and
Color TVs**

Bureaus (Commissions) of Commodity Prices and Competent Departments in Charge of the Electronic Industry of provinces, autonomous regions, municipalities directly under the Central Government, and municipalities specifically designated in the state plan:

To curb unfair price competition and maintain normal market competition order, the State Planning Commission and the Ministry of Information Industry have formulated the Trial Measures to Curb Unfair Price Competition Regarding Color CRTs and Color TVs (hereinafter referred to as the "Measures"), which are hereby distributed for your earnest implementation. Related issues are hereby notified as follows:

-1-

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IRI-CRT-00031461

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1. Prices of color TVs have plunged in recent years due to the oversupply of products and increasingly fierce market competition. In the price cut competition, some color TV and color CRT manufacturers sell their products at the prices lower than production costs, which disrupts normal price order and harm legitimate rights and interests of other business operators and consumers. The competent departments in charge of price and electronics in all places must work closely with related departments in planning, economic and trade to strengthen leadership and ensure the sound implementation of the Measures.

2. According to the principles of instructions from the leading comrades of the State Council, the State Planning Commission and the Ministry of Information Industry have decided to focus on color TVs and color CRTs during the campaign of preventing dumping and regulating the market order according to the law in 1999. All places must step up supervision and inspection, with the focus on: whether ex-factory prices of color CRT and color TV manufacturers are lower than their production costs, and whether the sales prices of distributors are lower than their purchasing costs; whether sales are made at low prices by means of discount, subsidy and extra quantity; whether sales are made at low prices by means of using raw materials and parts and components imported through smuggling, lowering performance indicators, using shoddy products as good products, falsely reporting costs, etc.

3. All color CRT and color TV manufacturers must strictly comply with all provisions in the Measures, consciously regulate pricing, truthfully and accurately record and verify production and purchasing costs, and strictly prohibit less amortization and false reporting of costs. At the same time, the enterprises must correct the unfair price competition found in self-inspection and actively report the unfair price competition to competent departments in charge of prices.

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003

4. All places should promptly report any problem arising in the implementation of the Measures, supervision and inspection to the State Planning Commission and the Ministry of Information Industry.

Attachment: Trial Measures to Curb Unfair Price Competition Regarding Color CRTs and Color TVs

*(Seal of the National Development Planning
Commission of the People's Republic of China)*

National Development Planning Commission

March 15, 1999

*(Seal of the Ministry of Information Industry of the
People's Republic of China)*

Ministry of Information Industry

Keywords: color TV, price measures, Notice

Cc: The General Office of the State Council, the State Economic and Trade Commission, the Ministry of Finance, the General Administration of Customs, and the Planning Commissions (Planning and Economic Commissions) of all provinces, autonomous regions, municipalities directly under the Central Government and cities specifically designated in the state plan

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IRI-CRT-00031462

004

Attachment:

Trial Measures to Curb Unfair Price Competition Regarding Color CRTs and Color TVs

Article 1 To curb unfair price competition in the color TV and color CRT industry, protect fair, open and legitimate market competition, the national interest and the legitimate rights and interests of business operators and consumers, and maintain normal price order, the Measures are hereby formulated according to the Price Law of the People's Republic of China (hereinafter referred to as the "Price Law") and other applicable laws of the state.

Article 2 Any business operator engaging in production and sales of color CRTs and color TVs within the People's Republic of China shall implement the Measures.

Article 3 The unfair price competition herein refers to misconduct of a business operator to sell products at the prices lower than their cost or sell products at low prices by reducing costs using unfair means, so as to expel competitors or monopolize the market, which disrupts normal production and operation orders and harms the national interest or legitimate rights and interests of other business operators.

Article 4 The following misconducts of color CRT and color TV operators constitute unfair price competition:

-4-

005

(I) Ex-factory prices of a manufacturer are lower than its production costs over the same period, and sales prices of a distributor are lower than its purchasing costs over the same period;

(II) Actual ex-factory prices of a manufacturer are made lower than its production costs, and actual sales prices of a distributor are made lower than its purchasing costs by means of discount, subsidy and extra quantity;

(III) Sales are made at low prices by means of using raw materials and parts and components imported through smuggling, lowering performance indicators, using shoddy products as good products, falsely reporting costs, etc.;

(IV) A color CRT buyer takes advantage its big market share to force a color CRT manufacturer to sell products at the prices lower than its production costs;

(V) Actual ex-factory prices of a manufacturer are lower than its production costs over the same period, or actual sales prices of a distributor are lower than its purchasing costs over the same period by other means.

Article 5 The Ministry of Information Industry regularly publishes industrial average production costs of main types and sizes of color CRTs and color TVs. The State Planning Commission and the Ministry of Information Industry determine and publish a reasonable range of price decrease.

Article 6 Ex-factory prices of a manufacturer shall not be lower than the industrial average production costs in principle; and the sales prices of a distributor shall not be lower than normal purchasing costs.

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Article 7 In case where a manufacturer sells its products at the prices lower than published industrial average production costs, or a distributor sells its products at the prices lower than its purchasing costs over the same period, leading to market price disorder and harms to the interests of other manufacturers or distributors, the harmed manufacturers or distributors may report the same to the State Planning Commission or a competent department in charge of prices of a province, autonomous region or municipality directly under the Central Government; and the competent government department in charge of prices will launch investigation into the case in light of the circumstance.

Article 8 The reporting party shall truthfully report the case by providing factual information regarding unfair price competition of the reported party and details of damages. A reported business operator shall cooperate with a competent government department in charge of prices in the investigation by truthfully providing related books, bills, vouchers and other materials.

Article 9 If it is found through the investigation that, the reported operator of color CRTs and color TVs is indeed committing unfair price competition set forth in Article 4 of the Measures, the competent government department in charge of prices shall order the operator to make correction and impose the following penalties according to the Price Law and specific circumstances:

- (I) Issue a warning;
- (II) Impose a fine;
- (III) Order the operator to suspend business for rectification; and
- (IV) File a request with an administration for industry and commerce for revocation of its business license.

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007

Article 10 When performing inspection, a competent department in charge of prices should first take individual costs of manufacturers or operators as a main basis. When it is difficult to confirm an individual cost, industrial average production costs and a reasonable range of price decrease will be used as the main bases.

Article 11 An operator of color CRTs and color TVs shall establish and improve internal price management, cost and expense accounting systems to truthfully and accurately record and verify production and purchasing costs, with no false statement.

Article 12 Competent departments at all levels in the electronic industry and the color CRT and color TV trade association shall urge operators of color CRTs and color TVs to implement the Measures. For manufacturers and distributors that violate the Measures, they shall be advised to correct; in case where the advice doesn't work, a report may be submitted to a competent department in charge of prices for official investigation.

Article 13 The Measures shall be interpreted by the State Planning Commission.

Article 14 The Measures shall go into effect as of April 1, 1999.

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IRI-CRT-00031464

Official document	Receipt No. 51 April 21, 1999
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Document of the Ministry of Information Industry

Xin Bu Yun [1999] No. 287

Notice on Publishing Industrial Average Production Costs of Some Types of Color CRTs and Color TVs

IRICO Group Corporation Document Review List

Group's proposed opinion:	Department's proposed opinion:
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Leader's instructions:

Circulation time	Signature	Circulation time	Signature	Circulation time	Signature	Circulation time	Signature

Required completion time	Processing result Signature from the leader of the handling organization

CONFIDENTIAL

IRI-CRT-00031465

Official document	Receipt No. 51 April 21, 1999
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Document of the Ministry of Information Industry

Xin Bu Yun [1999] No. 287

Notice on Publishing Industrial Average Production Costs of Some Types of Color CRTs and Color TVs

Color CRT and Color TV manufacturers:

To curb unfair price competition in the color CRT and color TV industry and maintain normal market order, we have estimated the industrial average production costs of two types of color CRTs and color TVs, i.e. 21 inches and 25 inches, pursuant to the Trial Measures to Curb Unfair Price Competition Regarding Color CRTs and Color TVs by the State Planning Commission and the Ministry of Information Industry, the cost materials submitted by major manufacturers of color CRTs and color TVs, and the results of investigation into typical enterprises. The estimation is hereby published (see the attached table). All color CRT and color TV manufacturers are asked to conscientiously implement the estimation. In case where a manufacturer sells its products at the prices lower than the published industrial average production costs, causing market disorders and harming the interests of other manufacturers, a harmed enterprise may file a report with the State Planning Commission or a competent department in charge of prices of a province,

-1-

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IRI-CRT-00031466

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autonomous region or municipality directly under the Central Government. If it is found through investigation that, such manufacturer indeed engages in unfair price competition, a competent government department in charge of prices shall order such manufacturer to correct and impose penalties on it in light of specific circumstances.

This Notice shall go into effect as of the date of distribution.

Attachment: Table

April 2, 1999

(Seal of the Ministry of Information Industry of the People's Republic of China)

Keywords: color CRT, color TV, cost, Notice

Cc: The State Planning Commission, the State Economic and Trade Commission, and the State Administration for Industry and Commerce.

The General Office of the Ministry of Information Industry Distributed on April 12, 1999

-2-

010

Table:

Industrial Average Production costs for Some Sizes and Types of Color CRTs and Color TVs

21" Color CRT	RMB440/piece
25" Color CRT	RMB720/piece
21" Color TV	RMB1,130/set
25" Color TV	RMB 1,700/set

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CONFIDENTIAL

IRI-CRT-00031467

彩虹集团公司

C06 企业管理

关于制止彩色显像管、彩色电视机
不正当价格竞争的试行办法及发布彩管
、彩电部分品种行业平均生产成本的通
知

自九九年三月至九九年四月

保管期限

长期

本卷内共 十 张

归档号

全宗号

目录号

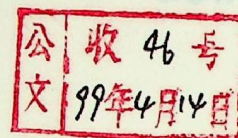
案卷号

IRI-CRT-00031458

001

请阅示

15/4-99



摘自中国电子报1999年4月13日第一版。

于发布彩色显像管、彩色电视机分品种行业平均生产成本的通知

信部运〔1999〕287号

制止彩色显像管、彩色电视机行业的不正当价格竞争，维护正常的市场秩序，根据国家计委、信息产业部《关于彩色显像管、彩色电视机不正当价格竞争的试行规定》依据各主要彩管、彩电生产企业报送的成本资料典型企业的调研情况，对21英寸、25英寸两个品种、彩电的行业平均生产成本进行了测算，现予发布。请各彩管、彩电生产企业认真贯彻执行。生

委、或者省、自治区、直辖市价格主管部门举报。对经调查认定，确有不正当价格竞争行为的由政府价格主管部门责令改正，并视具体情况进行处罚。

本通知自发布之日起执行。

附表：部分规格品种彩管、彩电行业平均生产成本

21英寸彩管	440元/只	21英寸彩电	1130元/只
25英寸彩管	720元/只	25英寸彩电	1700元/只

信息产业部 1999年4月2日

彩虹电子集团公司文件阅办单

集团拟办意见：

请阅示

部拟办意见：

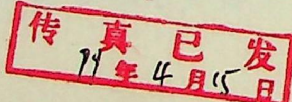
15/4-99

领导指示：

传阅时间	签	字	传阅时间	签	字	传阅时间	签	字	传阅时间	签	字

求完成时间

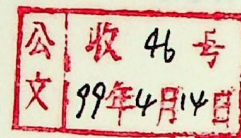
处理结果



承办单位领导签字

001

请各系阅 15/4-98



摘自中国电子报1999年4月13日第一版。

于发布彩色显像管、彩色电视机 分品种行业平均生产成本的通知

信部运〔1999〕287号

制止彩色显像管、彩色电视机行业的不正当价格竞争，维护正常的市场秩序，根据国家计委、信息产业部《关于制止彩色显像管、彩色电视机不正当价格竞争的试行办法》依据各主要彩管、彩电生产企业报送的成本资料典型企业的调研情况，对21英寸、25英寸两个品种、彩电的行业平均生产成本进行了测算，现予发布。请各彩管、彩电生产企业认真贯彻执行。违反发布的行业平均生产成本销售，造成市场秩序害其他生产企业利益的，受损害的企业可向国家计

委、或者省、自治区、直辖市价格主管部门举报。对经调查认定，确有不正当价格竞争行为的由政府价格主管部门责令改正，并视具体情况进行处罚。

本通知自发布之日起执行。

附表：部分规格品种彩管、彩电行业平均生产成本

21英寸彩管	440元/只	21英寸彩电	1130元/只
25英寸彩管	720元/只	25英寸彩电	1700元/只

信息产业部 1999年4月2日

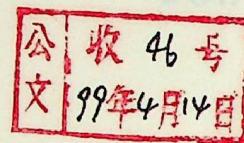
关于制止彩色显像管、彩色电视机 不正当价格竞争的试行办法的通知

各省、自治区、直辖市及计划单列市物价局(委员会)，电子工业主管部门：

为了制止彩色显像管、彩色电视机行业的不正当价格竞争行为，维护正常的市场竞争秩序，国家计委、信息产业部制定了《关于制止彩色显像管、彩色电视机不正当价格竞争的试行办法》(以下简称《办法》)，现印发给你们，请认真贯彻执行，并就有关事项通知如下：

001

李强 15/4-99



重大
制约

国家发展计划委员会 信息产业部 文件

计价格[1999]264号

绍，此次研制成功
产品是“863计划
研制系列化、多样
标志性产品，其产
E操作系统，完成
移动通讯、网上浏
数据同步与信息
可以通过电话线
特网，具有可收
据交换、传真发送

国家计委、信息产业部印发 关于制止彩色显像管、彩色电视机 不正当价格竞争的试行办法的通知

各省、自治区、直辖市及计划单列市物价局(委员会)，电子
工业主管部门：

为了制止彩色显像管、彩色电视机行业的不正当价格
竞争行为，维护正常的市场竞争秩序，国家计委、信息产业
部制定了《关于制止彩色显像管、彩色电视机不正当价格竞
争的试行办法》(以下简称《办法》)，现印发给你们，请认真
贯彻执行，并就有关事项通知如下：

002

一、近几年来,由于产品供过于求,市场竞争日趋激烈,彩色电视机价格大幅度下降。在降价竞争中,一些彩色电视机、彩色显像管生产企业以低于生产成本的价格进行销售,扰乱了正常的价格秩序,损害了其他经营者和消费者的合法权益。各地价格、电子主管部门要会同计划、经贸等有关部门,加强领导,密切配合,共同做好《办法》的贯彻实施工作。

二、遵照国务院领导同志的指示精神,国家计委、信息产业部决定,将彩色显像管和彩色电视机作为 1999 年制止低价倾销、依法规范市场秩序的重点品种。各地要加强监督检查,检查的主要内容是:彩色显像管、彩色电视机生产企业的出厂价格是否低于其生产成本,经销企业的销售价格是否低于其进货成本;是否采取折扣、补贴、多给数量等手段低价销售;是否采取使用走私进口原材料和零配件、降低性能指标、以次充好、虚报成本等手段低价销售。

三、彩色显像管和彩色电视机生产企业要严格执行《办法》的各项规定,自觉规范价格行为,据实、准确记录与核定生产成本及进货成本,严禁少摊费用,虚置成本。同时要对本企业有无不正当价格竞争行为进行自查自纠,并积极向价格主

— 2 —

003

管部门举报不正当价格竞争行为。

四、各地在贯彻实施《办法》和监督检查过程中存在的问题,请及时报告国家计委和信息产业部。

附件:关于制止彩色显像管、彩色电视机不正当价格竞争的试行办法



主题词:彩电 价格办法 通知

抄送:国务院办公厅、国家经贸委、财政部、海关总署,各省、自治区、直辖市及计划单列市计委(计经委)

— 3 —

004

附件:

关于制止彩色显像管、彩色电视机 不正当价格竞争的试行办法

第一条 为制止彩色显像管、彩色电视机行业的不正当价格竞争行为,维护公平、公开、合法的市场竞争和正常的价格秩序,维护国家利益,保护经营者和消费者的合法权益,根据《中华人民共和国价格法》(以下简称《价格法》)及国家其他有关法律,制定本办法。

第二条 凡在中华人民共和国境内从事生产、销售彩色显像管、彩色电视机的经营者,均应执行本办法。

第三条 本办法所称的不正当价格竞争行为是指,经营者为了排挤竞争对手或独占市场,以低于本企业成本销售,或者采取其它不正当手段降低成本低价销售,扰乱正常的生产经营秩序,损害国家利益或其它经营者合法权益的行为。

第四条 彩色显像管、彩色电视机经营者的下列行为属于不正当价格竞争行为:

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005

(一)生产企业的出厂价格低于其同一时期生产成本,经销企业的销售价格低于其同一时期进货成本;

(二)采取折扣、补贴、多给数量等方式,使生产企业的实际出厂价格低于本企业生产成本,经销企业实际销售价格低于本企业进货成本;

(三)使用走私进口原材料和零配件、降低性能标准、以次充好、虚报成本等手段低价销售;

(四)市场份额占较大优势的彩色显像管购买者利用其优势地位迫使彩色显像管生产企业低于其生产成本销售产品;

(五)采取其它方式,使生产企业的实际出厂价格低于其同一时期生产成本,或经销企业的实际销售价格低于其同一时期进货成本。

第五条 信息产业部定期发布彩色显像管、彩色电视机主要品种、规格的行业平均生产成本。国家计委会同信息产业部确定和公布合理的下浮幅度。

第六条 生产企业的出厂价格原则上不应低于行业平均生产成本;经销企业的销售价格不应低于正常进货成本。

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第七条 生产企业以低于发布的行业平均生产成本销售,经销企业以低于其同期进货成本销售,造成市场价格秩序混乱、损害其它生产企业和经销企业利益的,受损害的生产企业和经销企业可向国家计委或者省、自治区、直辖市政府价格主管部门举报;政府价格主管部门根据情况立案调查。

第八条 举报人应当据实反映情况,提供被举报人不正当价格竞争行为的事实材料和被损害的情况。被举报的经营者,应当配合政府价格主管部门调查,如实提供相关的帐簿、单据、凭据以及其它资料。

第九条 经调查认定,被举报的彩色显像管、彩色电视机经营者确有本办法第四条所列不正当价格竞争行为的,由政府价格主管部门责令改正,并视具体情况依据《价格法》进行下列处罚:

- (一)予以警告;
- (二)处以罚款;
- (三)责令其停业整顿;
- (四)提请工商行政管理机关吊销其营业执照。

第十条 价格主管部门实施检查时,首先应以生产、

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经营者的个别成本为主要判定依据。当个别成本难以认定时,以行业平均成本和合理的下浮幅度为主要判定依据。

第十一条 彩色显像管、彩色电视机经营者应当建立、健全内部价格管理及成本、费用核算制度,据实、准确记录与核定生产成本及进货成本,不得弄虚作假。

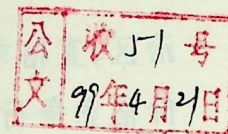
第十二条 各级电子工业主管部门及彩色显像管、彩色电视机行业协会应当督促彩色显像管、彩色电视机经营者执行本办法。对生产企业和经销企业违反本办法的,规劝其改正;规劝无效的,可向政府价格主管部门举报,要求立案调查。

第十三条 本办法由国家计委负责解释。

第十四条 本办法自1999年4月1日起施行。

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信息产业部文件

信部运〔1999〕287号

关于发布彩色显像管、彩色电视机部分 某种行业平均生产成本的通知

彩虹电子集团公司文件阅办单

集团拟办意见：

部拟办意见：

领导指示：

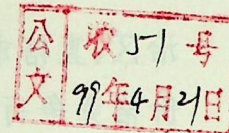
传阅时间	签 字	传阅时间	签 字	传阅时间	签 字	传阅时间	签 字

要求完成时间

处理结果

承办单位领导签字

008



信息产业部文件

信部运[1999]287号

关于发布彩色显像管、彩色电视机部分 品种行业平均生产成本的通知

各彩管、彩电生产企业：

为了制止彩色显像管、彩色电视机行业的不正当价格竞争行为，维护正常的市场秩序，根据国家计委、信息产业部《关于制止彩色显像管、彩色电视机不正当价格竞争的试行办法》，我部依据各主要彩管、彩电生产企业报送的成本资料，结合典型企业的调研情况，对21英寸、25英寸两个品种规格彩管、彩电的行业平均生产成本进行了测算，现予发布（见附表）。请各彩管、彩电生产企业认真贯彻执行。生产企业以低于发布的行业平均生产成本销售，造成市场秩序混乱、损害其他生产企业利益的，受损害的企业可向国家计委、或者省、自

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治区、直辖市价格主管部门举报。对经调查认定,确有不正
价格竞争行为的由政府价格主管部门责令改正,并视具体
况进行处罚。

本通知自发布之日起执行。

附件:附表



主题词:彩管 彩电 成本 通知

抄 送:国家计委,国家经贸委,国家工商行政管理局。

信息产业部办公厅

一九九九年四月十二日印发

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附表:

部分规格品种彩管、彩电行业平均生产成本

21英寸彩管	440元/只
25英寸彩管	720元/只
21英寸彩电	1130元/台
25英寸彩电	1700元/台

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备 考 表

全 宗 号:

案卷目录号:

案卷顺序号:

本卷(或簿本)内的文件共有 10 张

本卷(或簿本)内的缺点或其他情况

立卷人: 王跃芹

检查人:

2000 年 8 月 15 日

年 月 日

03513 × 824

EXHIBIT 38

EXHIBIT F





December 20, 2017

Certification

Park IP Translations

This is to certify that the attached translation is, to the best of my knowledge and belief, a true and accurate translation from Chinese into English of:
关于发布彩色显像管部分品种行业平均生产成本的通知

A handwritten signature in black ink, appearing to read 'Hanna Kang'.

Hanna Kang

Project Manager

Project Number: BBLLP_1712_051

15 W. 37th Street 8th Floor
New York, NY 10018
212.581.8870
ParkIP.com

File No.	Catalogue No.	Record No.	Sequence No.
	[illegible]	14	4

Document of the Ministry of Information Industry
Xin Bu Yun [2000] No. 843

Notification of Publishing Industrial Average Production Costs for Some Types of Color CRTs

To color CRT manufacturing enterprises:

To prevent actions of unfair price competition in the color CRT industry and maintain a normal market order, the industrial average production costs of three types of color CRTs, i.e. 21 inches, 25 inches, and 29 inches, are hereby published (see the attached table for details) pursuant to the Trial Measures to Prevent Unfair Price Competition Regarding Color CRTs and Color TVs by the State Planning Commission and the Ministry of Information Industry. All color CRT manufacturing enterprises are asked to seriously implement the costs. In the case where a manufacturing enterprise sells the products at prices lower than the published industrial average production costs to cause market disorders and harm the interests of other manufacturing enterprises, a harmed enterprise may file a report with the State Planning Commission or a competent department in charge of prices of a province, autonomous region or municipality directly under the Central Government. In the case where it is confirmed through investigation that there is indeed an action of unfair price competition, a competent government department in charge of prices shall order the responsible party to correct and impose penalties according to specific situations.

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Electronic Industry Archives	
Copy	No. 2017052

This Notification shall go into effect as of the date of issuance.

Attachment: Attached Table

September 13, 2000
(Seal of the Ministry of Information Industry of the
People's Republic of China)

Keywords: color CRT, production cost, notification

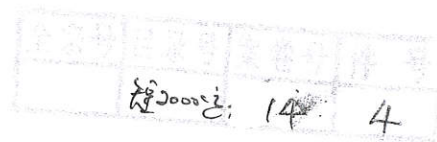
Cc: The State Planning Commission, the State Economic and Trade Commission, and the State
Administration for Industry and Commerce.

The General Office of the Ministry of Information Industry

Printed and distributed on
September 14, 2000

Attached Table: Industrial average production costs for Some Sizes of Color CRTs

21" (regular flat)	410 Yuan/piece
25" (regular flat)	670 Yuan/piece
29" (ultra flat)	1135 Yuan/piece



信息产业部文件

信部运〔2000〕843号

关于发布彩色显像管 部分品种行业平均生产成本的通知

各彩管生产企业：

为了制止彩色显像管行业的不正当价格竞争行为，维护正常的市场秩序，按照国家计委、信息产业部《关于制止彩色显像管、彩色电视机不正当价格竞争的试行办法》，现将21英寸、25英寸、29英寸三种规格彩管的行业平均成本予以发布（详见附表）。请各彩管生产企业认真贯彻执行。生产企业以低于发布的行业平均成本销售造成市场秩序混乱、损害其它生产企业利益的，受损害的企业可以

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向国家计委或者省、自治区、直辖市价格主管部门举报。
对经调查认定,确有不正当价格竞争行为的由政府价格主
管部门责令改正,并视具体情况进行处罚。

本通知自发布之日起执行。

附件:附表



主题词:彩管 生产成本 通知

抄 送:国家计委,国家经贸委,国家工商行政管理局。

信息产业部办公厅

二〇〇〇年九月十四日印发

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报。
格主

附表：部分规格彩管行业平均生产成本

21 英寸（普平）	410 元/只
25 英寸（普平）	670 元/只
29 英寸（超平）	1135 元/只

印发